S
4

EAST INDIA (FOREST SERVICE).

CORRESPONDENCE

RELATING TO THE

TRAINING

OF

FORESTRY STUDENTS.

Presented to both Houses of Parliament by Command of His Majesty.

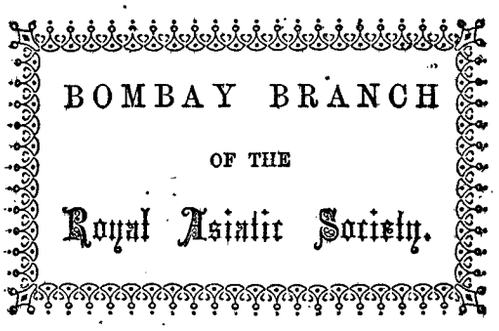
00109070

LONDON:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE
By DARLING & SON, Ltd., 34-40, Bacon Street, E.

And to be purchased, either directly or through any Bookseller, from
WYMAN and SONS, Ltd., Fetter Lane, E.C.,
and 32, Abingdon Street, Westminster, S.W.;
or OLIVER & BOYD, Edinburgh;
or E. PONSONBY, 116, Grafton Street, Dublin.

1905.

[Cd. 2523.] *Price 8d.*



Digitized with financial assistance from
Government of Maharashtra
on 13 March, 2020

EAST INDIA (FOREST SERVICE).

CORRESPONDENCE

RELATING TO THE

TRAINING

OF

109070

FORESTRY STUDENTS.

Presented to both Houses of Parliament by Command of His Majesty.

00109070

LIBRARY OF THE BOMBAY BRANCH OF THE ROYAL ASIATIC SOCIETY

LONDON:
PRINTED FOR HIS MAJESTY'S STATIONERY OFFICE,
By DARLING & SON, Ltd., 34-40, Bacon Street, E.

And to be purchased, either directly or through any Bookseller, from
WYMAN and SONS, Ltd., Fetter Lane, E.C.,
and 32, Abingdon Street, Westminster, S.W.;
or OLIVER & BOYD, Edinburgh;
or E. PONSONBY, 116, Grafton Street, Dublin.

1905.

[Cd. 2523.] *Price 8d.*

TABLE OF CONTENTS.

No. of Paper.	Document.	Date.	From	To	Subject.	Page.
		1902.				
1	Extracts from Report of Committee on British Forestry. (Cd. 1319.)	Nov. 29	—	—	Recommendation to transfer the Forestry Department of Coopers Hill College to a University.	1
		1903.				
2	Extract from Report of Committee on Cooper's Hill College. (Cd. 2055.)	August 17	—	—	Recommendation regarding training of Forestry probationers.	2
		1904.				
3	Letter	May 20	India Office	President, R.I.E. College.	Request for Dr. Schlich's views as to arrangements he would advise after closing of College.	3
4	Ditto (with an enclosure).	May 31	President, R.I.E. College.	India Office	Memorandum by Dr. Schlich, with observations thereon.	3
5	Ditto (with an enclosure).	July 8	University of Cambridge.	Ditto	Proposed arrangements for the teaching of Forestry at the University of Cambridge.	10
6	Letter	July 11	India Office	University of Cambridge.	Acknowledgment of receipt of No. 5.	13
7	Ditto	August 19	Ditto	University of Oxford.	Suggesting arrangements for the training at Oxford of Forestry probationers selected by open competition.	14
8	Ditto (with an enclosure).	Oct. 25	University of Oxford.	India Office	Ditto. Reply to No. 7	16
9	Letter	Nov. 22	University of Cambridge.	Ditto	Request for reply to No. 5... ...	19
10	Ditto	Nov. 28	India Office	University of Cambridge.	Request for observations regarding scheme referred to in Nos. 7 and 8.	19
11	Ditto	Dec. 5	University of Cambridge.	India Office	Suggests amendments of scheme, and urges the claims of Cambridge University for consideration.	20
12	Ditto (with an enclosure).	Dec. 9	India Office	University of Oxford.	Preliminary draft of Regulations as to selection and training of probationers under new scheme of training.	22
13	Ditto	Dec. 16	University of Edinburgh.	India Office	Request for information regarding future training of Forestry students.	25
14	Letter	Dec. 20	India Office	University of Cambridge.	Reasons for decision to locate Forestry School at Oxford.	25
		1905.				
15	Ditto	Jan. 25	University of Cambridge.	India Office	Suggesting a Conference between India Office and the two Universities to frame an acceptable scheme.	26
16	Ditto	Jan. 27	India Office	University of Oxford.	Asking that representatives may attend Conference at India Office.	27
17	Ditto	Jan. 27	Ditto	University of Cambridge.		28
18	Ditto	Jan. 30	Ditto	Sir D. Brandis	Request to join in Conference ...	28

750 Wt 31602 5/05 D & S 6 20998

TABLE OF CONTENTS—*continued.*

No. of Paper.	Document.	Date.	From.	To	Subject.	Page
		1905.				
19	Narrative	Feb 2	—	—	Proceedings of Conference held at the India Office.	29
20	Report (with an appendix).	Feb. 8	India Office representatives at the Conference.	Secretary of State	Reporting on the Proceedings of the Conference.	57
21	Letter	March 11	University of Cambridge.	India Office	Suggestion as to selection of candidates and period of probation.	60
22	Ditto	March 17	India Office	Civil Service Commission.	Request to arrange for an examination under Regulations enclosed.	61
23	Ditto	March 17	Ditto	University of Cambridge.	Training of candidates selected by open competition to be carried on at Oxford for an experimental period of three years.	61
24	Ditto	March 17	Ditto	University of Oxford.		62
25	Ditto	March 23	Ditto	University of Edinburgh.		63
26	Ditto	March 20	University of Cambridge.	India Office	Takes exception to the temporary scheme proposed.	64
27	Ditto	March 29	India Office	University of Cambridge.	Publication of correspondence ...	64
28	Ditto	April 25	Civil Service Commission.	India Office	Forwarding draft Syllabus, etc. ...	65
29	Ditto (with an enclosure).	May 11	India Office	Civil Service Commission.	Forwarding final Regulations ...	65

EAST INDIA (FOREST SERVICE).

CORRESPONDENCE

RELATING TO THE

TRAINING OF FORESTRY STUDENTS.

No. 1.

*Extracts from the Report, dated the 29th November, 1902, of the Departmental Committee appointed by the Board of Agriculture to enquire and report upon British Forestry.**

Paragraph 16:—

The desirability of a great State Forest School on the model of Nancy or of Eberswalde has not escaped our attention, but we do not feel justified, under present conditions, in recommending so great an outlay as would be necessitated by the creation of such an institution. We think, however, that many of the advantages of an institution of this type could be secured at a comparatively small outlay by the transference of the Forestry Department at Coopers Hill to a University centre. This would at once place the highest form of forestry education available in this country within the reach of a large proportion of the prospective land-owners and land-agents, while the advantages to the candidates for the Indian Forest Service of three years' residence in a University are obvious. The Colonies make increasing demands on this country for qualified forest experts, and we anticipate that an increasing number of lecturers and advisory experts will be required for work in the United Kingdom. Our Universities contain many students thoroughly well-grounded in natural science and economics, who, at the end of their period of study of pure subjects, would readily be attracted to the study of forestry, and would rapidly qualify as forest experts.

Paragraph 36:—

We recommend—

(*a*) That two areas for practical demonstration be acquired, the one in England and the other in Scotland, of not less than 2,000 acres, if possible, nor over 10,000 acres in each case. We suggest that the Alice Holt Woods in Hampshire be made available as soon as possible to serve as a Demonstration Area in England; and that a suitable estate be purchased in Scotland, as convenient as possible to Edinburgh, for the same purpose. These recommendations would have

* Parliamentary Paper, Cd. 1319 of 1902.

to be carried out by arrangement between the Commissioners of Woods and Forests and the Board of Agriculture; and assistance should be looked for from local authorities, societies, and individuals interested in forestry and technical education.

(*b*) That additional facilities for instruction be afforded, by the appointment of a lecturer on forestry in connection with each of the Universities of Cambridge and Oxford, and that example plots, as defined in paragraph 15, be provided in connection with each of these centres and with Edinburgh.

No. 2.

*Extract from the Report dated the 17th August, 1903, of the Committee appointed to enquire into Royal Indian Engineering College at Coopers Hill, and other matters.**

Paragraph 35:—

We next deal with the question of the recruitment and training of officers for the Forest Service.

As there is no efficient teaching of Forestry in the United Kingdom, it will be necessary for some years to come that the Government of India should continue to provide for the education of the selected candidates. The Professor of Forestry and one of his Assistants must be maintained as heretofore. The question then arises—where, in the absence of Coopers Hill, are Forest officers to be trained? Although the average number of Forest officers required by the Government of India will be only eight annually, the Government of India is too deeply interested in the matter to allow of its being left to chance or to the future establishment of schools for instruction in Forestry in accordance with the recommendation of the Departmental Committee on British Forestry, which reported to the Board of Agriculture last year. We think that it is possible without much difficulty to arrange for the transfer of the Professor of Forestry and one of his Assistants from Coopers Hill to Cambridge or Oxford or Edinburgh. At the last-named University there is already the foundation of a Forest School, but it may be inconvenient to have the students so far from London. On the whole, looking to the evidence given by Sir W. Thiselton-Dyer as to the facilities at Cambridge, we recommend that for the immediate future, at any rate, an arrangement should be made with that University. For the present the candidates may be selected, as now, by the Civil Service Commissioners, and required to go to Cambridge for their Forest Education as they now go to Coopers Hill. On the understanding that the pay of the Professor of Forestry and his Assistant is provided by the Government of India, that Government should have a controlling voice in the choice of a Professor and in prescribing the course of instruction to be followed. Hereafter when Schools of Forestry, with suitable staffs and sufficient equipment, shall have been established with success, their degrees or diplomas may be accepted as proof of sufficient technical training, and the selection may be made from those who have acquired those degrees and diplomas and are otherwise well qualified. When this condition has been reached, the Government of India need no longer concern themselves with the teaching staff or the course of instruction.

---

* Parliamentary Paper, Cd. 2055 of 1904.

No. 3.

Letter from the India Office to the President, Royal Indian Engineering College, dated the 20th May, 1904.

In continuation of the letter* from this Office, dated the 11th May, 1904, J. & P. 973, I am directed by the Secretary of State to request that you will be so good as to ascertain from Doctor Schlich his views as to the arrangements which he would advise for the training of the probationers for the Forest Service, after the system of training at Coopers Hill has been brought to a close, and that you will submit them with any observations of your own which you may desire to make.

I am, &c.,

(Signed) A. GODLEY.

No. 4.

Letter from the President, Royal Indian Engineering College, to the Under Secretary of State for India, dated the 31st May, 1904.

With reference to your letter J. and P. 1164, dated the 20th May, 1904, I have now the honour to forward, in original, a Memorandum drawn up by Dr. Schlich detailing the arrangements which he advises for the training of the probationers for the Forest Service, after the system of training at Coopers Hill has been brought to a close.

2. It will be observed that Dr. Schlich is quite clear that the education of the Foresters should be conducted at either Cambridge or Oxford, and that of these two he greatly prefers Oxford. He points out that Oxford is far more favourably situated as regards opportunities for practical illustration of forestry teaching. At Cambridge they would only have a few small patches of private woods in the immediate vicinity and the woods of His Grace The Duke of Bedford at Woburn, which are distant about an hour's rail from Cambridge. He remarks that these latter woods can be equally well reached from Oxford in one and a half hours by rail, and in addition to this, it is easy to reach from Oxford the following woods and forests:—

I. The Forest of Dean and the High Meadow Woods, which are Crown property.

II. The Alice Holt Woods, which are Crown property.

III. The Beech Woods of the Chiltern Hills (one hour by rail).

IV. The Woods of Lord Bathurst, near Cirencester.

In addition to these, there are quite a variety of woods in the immediate vicinity of Oxford, amongst which may be mentioned:—

I. Bagley Wood, of some 400 acres, at a distance of 2½ miles.

II. Appleton Woods (distance, 6 miles).

III. Wytham Wood (distance, 3½ miles).

IV. Wychwood Forest (distance, 13 miles by rail); and numerous other woods.

---

* Not printed.

Attention may be drawn to paragraph 7 of Dr. Schlich's Memorandum, and the accompanying railway map showing the position of the larger woods above-mentioned.

3. As regards the question of selection of candidates, Dr. Schlich recommends (paragraph 8) that in future candidates should be drawn from undergraduates of the University who have passed certain examinations. In the case of Oxford, this would be (A) Responsions; (B) The Preliminary Examination in the Honours School of Natural Science; and he points out that a candidate thus selected at Oxford would receive one year's preliminary instruction in Science at the University, followed by two years' instruction in special subjects, and, lastly, a year's practical experience on the Continent, making up four years in all from the date of entry to the University. He points out that at Cambridge the course would have to be one of five years, unless the special period of instruction were curtailed to one year, a procedure to which he is mostly strongly opposed.

4. After careful consideration of all that Dr. Schlich has written, it appears to me that the advantages in favour of Oxford outweigh those obtained at Cambridge, and I therefore recommend to your favourable consideration the suggestion that Oxford should be the University selected for the future training of Forest Students.

5. It will be observed that the provisional nomination of the candidates for the Indian Forest Service should be made at the end of the Trinity Term (July) from those undergraduates who have passed the Preliminary Examination for the Honours School of Natural Science. In connection with this, attention may be invited to paragraph 11 of Dr. Schlich's Memorandum.

6. Dr. Schlich's views, as regards the probable expense at Oxford, will be found stated in his paragraphs 14 to 16, inclusive, and may be thus summarised:—The salaries and travelling expenses of the Professor and Assistant Professor will amount to £1,400 a year. It is understood that the cost of teaching Forest Botany will be undertaken by the Universities, as they are willing to utilise the now vacant Sibthorpian Professorship of Rural Economy, and to augment the emoluments to an amount sufficient to secure the services of a competent teacher. In this connection, I would draw attention to Dr. Schlich's suggestion that the appointment of a Reader in Forest Botany should be made only after consulting the Professor of Forestry, and that the Syllabus of the studies in this subject should be drawn up jointly by the Reader in Forest Botany and the Professor of Forestry. The next item of expenditure refers to the formation of a Forest Garden and experimenting area. For this purpose, Dr. Schlich requires about 100 acres, and estimates that the following outlay would be required:—Fencing, say, £120, and an outlay of, say, £150 a year, being the cost of a man in charge and the rent, &c., of the land.

7. Under the head of "Accommodation," Dr. Schlich points out that Lecture Rooms, Professors' Rooms, and a Museum will be required. In his Memorandum he has not stated the probable cost of these requirements but I have ascertained from him that all he requires could be provided for a sum which should not exceed £2,000. I understand that a suitable site for this building is available, and it will probably be considered advisable either to make a grant of the whole of this amount or else a large portion of it.

8. Attention is invited to paragraph 17 of Dr. Schlich's Memorandum, in which he states that it would be essential to issue a notice early next October to the effect that a given number of candidates for the Indian Forest Service would be provisionally nominated in July, 1905.

9. It is satisfactory to learn from Dr. Schlich's paragraph 18 that he anticipates no difficulty whatever in dealing in 1905 with the Forest Students admitted to Coopers Hill this year, whose course of study would be incomplete at the close of the next Session.

10. Dr. Schlich wishes me to bring to your notice that he proposes starting for the Continent on the 7th June next, and expects to be back in England about the middle of July, but that if absolutely necessary he could postpone his departure until the 11th June, though he would prefer to leave on the date first-named.

I have, &c.,

(Signed) JOHN W. OTTLEY,

President, Royal Indian Engineering College.

Enclosure in No. 4.

Letter from the Principal Professor of Forestry to the President, Royal Indian Engineering College, Coopers Hill, dated the 30th May, 1904.

In compliance with the request contained in your endorsement of the 21st instant, forwarding to me letter of the 20th instant, from the Under Secretary of State for India to your address, I have the honour to forward herewith a Memorandum setting forth my views as to the arrangements which I should advise for the training of probationers for the Indian Forest Service, after the system of training at Coopers Hill has been brought to a close.

I have, &c.,

(Signed) W. SCHLICH,

Principal Professor of Forestry,

Coopers Hill College.

Annexure.

Memorandum on the System of Training of Probationers for the Indian Forest Service, to be adopted after the system of training at Coopers Hill has been brought to a close.

1. Two distinct matters have to be considered:—

(*a*) The general system of training in the future; and

(*b*) How to deal with the probationers, whose course of study may be incomplete, when Coopers Hill College is closed.

I shall first deal with the general case.

2. The Committee of 1903, which proposed the closing of Coopers Hill College, suggested the transfer of the Professor of Forestry and one of his assistants from Coopers Hill to Cambridge, Oxford, or Edinburgh. It was added, that one of the first two would be preferable, with which I agree. Of the two English Universities, the Committee favoured Cambridge. The Committee further proposed, that for the present, the candidates might be selected, as in the past, by the Civil Service Commissioners, and required to go to Cambridge for their forest education as they now go to Coopers Hill, on the understanding that the pay of the Professor of Forestry and his assistant is provided by the Government of India, and that the latter should have a controlling voice in the choice of the Professor, and in prescribing the course of instruction to be followed. The Committee added that hereafter, when schools of forestry, with a suitable staff and sufficient equipment, shall have been established with success, their degrees or diplomas may be accepted as proof of sufficient technical training, and the selection may be made from those who have acquired these degrees and diplomas and are otherwise well qualified.

The Government of India, on the other hand, suggest in their despatch* of the 22nd October, 1903, that "if Coopers Hill is to be closed, they would strongly urge a reversion to the system which obtained before candidates for the forest service were admitted to the College," in other words, to revert to the former continental training, but under more efficient supervision than in the past.

---

* Printed in Parliamentary Paper, Cd. 2055 of 1904, page 65.

3. When the transfer of the forest students to Coopers Hill was first proposed in 1882, I was Inspector-General of Forests to the Government of India, and, on my advice, that Government urged the Secretary of State for India to continue the continental training, at any rate for another five years, as I did not consider matters ripe for a start in England. At the same time I believed that such a change would ultimately have to be made, so as to become, by degrees, independent of the continental training. Since then considerable progress has been made in this country. We have developed a satisfactory system of teaching the theoretical part of forestry, and a certain portion of the practical part; we have written a complete Manual of Forestry in five volumes. Systematic management has been introduced into several forests belonging to the Crown, such as (*a*) the Forest of Dean; (*b*) the High Meadow Woods, worked under working plans prepared by the late Mr. H. C. Hill; (*c*) the Alice Holt Woods, for which I have prepared a working plan. Several landed proprietors, such as His Grace the Duke of Bedford, Lord Selborne, Mr. Munro Ferguson, and others, have adopted a systematic management of their extensive forests. We have even started a forest school for working foresters, in connection with the Forest of Dean and the High Meadow Woods. Thus a substantial start has been made, and with a little more patience and continuity of action we shall, within a reasonable space of time, have training grounds for practical illustration and instruction at our disposal, which will, gradually, make us more and more independent of continental training. For some time to come, we shall, no doubt, have to rely on the continent for the final practical training, but I am satisfied that the theoretical and certain portions of the practical part of the training can be done in a satisfactory manner in this country. To re-transfer the whole business now to the continent would mean that the fruits of our exertions during the last 19 years would be once more annihilated, while I feel sure that a fresh start would be made in this country before many years are passed.

4. To send young men at the age of 18 years to continental establishments, when their training can be done just as well in this country, seems to me, to say the least of it, a very doubtful policy; they had much better be trained in their own country. That the former method has considerable drawbacks, has been amply proved in the past, and it is by no means so easy to provide the necessary efficient supervision, while the students are in continental establishments, as the Government of India seem to think. Later on, when the students have completed their university career in this country, and have arrived at the age of, say, 21 years, they may safely be sent abroad for practical instruction, especially as they will be placed, two and two with specially selected experienced forest officers. The latter system has now been perfected to such an extent, that no difficulties arise, and that we obtain the most satisfactory results.

5. There is, however, another important reason, why we should hesitate to destroy again the progress so far made, and why we should take a somewhat wider view of the whole question. It is well known that the demand for qualified forest officers for service in the Colonies is steadily increasing, a demand which has, up to date, been met chiefly by members of the Indian Forest Service being lent or permanently transferred to Colonial Governments. This has been a heavy tax on the Indian service, and of late, the demands could not all be complied with. Sir William Thiselton Dyer and myself are constantly asked to find trained forest officers, but they are not available in this country. I may mention that I had, during the last 12 months, applications for five such officers, one for the Sudan, two for Uganda, one for Travancore, and one for the Federated Malay States (quite apart from a demand for a first class officer for the Transvaal and one for Siam). I had only one Englishman, whom I could recommend for Uganda; for the Sudan we took in a young man to be trained with our probationers; for Travancore I selected and sent out a young German officer; and for the Federated Malay States I am searching for another suitable German forest officer, at the special request of the Secretary of State for the Colonies, after I had failed to find a qualified Englishman. It is clear that the means of efficient instruction in forestry for the benefit of the Empire as a whole must soon be provided, and I am of opinion that we shall do well to fall in with these requirements. The field of selection, for service in India, will be considerably extended without sacrificing the interests of the Indian Empire in any way.

6. For all these reasons I am strongly of opinion that a high class school of forestry should be established, either at Oxford or Cambridge, where the probationers for service in India will be educated. As to the choice between these two universities, something can be said in favour of either. The teaching of science is said to be more advanced at Cambridge; at the same time I am satisfied that the standard obtaining at Oxford is quite sufficient for our requirements, apart from certain special instruction which has to be provided at either university. On the other hand, Oxford is far more favourably situated as regards opportunities for practical illustrations. At Cambridge we should only have a few small patches of private woods in the immediate vicinity, and the woods of his Grace the Duke of Bedford at Woburn, distant about an hour's rail from Cambridge. I have no doubt that His Grace would permit his woods being used for practical illustration. At the same time they can be reached from Oxford in an hour and a half by rail. In addition, it is easy to reach from Oxford:—

(*a*) The Forest of Dean and the High Meadow Woods (Crown properties).

(*b*) The Alice Holt Woods (Crown property).

(*c*) The Beech woods of the Chiltern Hills (one hour's rail).

(*d*) The woods of Lord Bathurst near Cirencester.

There are quite a variety of woods in the immediate vicinity of Oxford, of which I may mention:—

(1) Bagley Wood, area some 400 acres, the property of St. John's College, Oxford. This wood consists of oak, ash, sycamore, birch, alder and a few spruce, with a considerable area lately planted with larch, ash, spruce, Scotch pine, and sycamore. Distance from Oxford 2½ miles.

(2) Appleton Woods, a considerable portion of which belongs to Magdalen College. Distance from Oxford 6 miles.

(3) Wytham Wood, belonging to the Earl of Abingdon, distance from Oxford 3½ miles.

(4) Wychwood Forest, distance from Oxford 13 miles by rail.

There are also numerous other woods. I have no doubt that satisfactory arrangements can be made with the owners to use these woods for the illustration of points placed before the students in lectures; while longer excursions can be arranged, from time to time, to the more distant forests mentioned above.

7. Under the circumstances detailed above, I am of opinion that of the two universities, Oxford is to be preferred because it offers far better opportunities for practical illustration and work, in the immediate vicinity of the forest school. The accompanying railway map* will further illustrate this point. At the same time I will show the arrangements which are practicable at either university.

8. I am further strongly of opinion that, after 1904, the candidates for the Indian Forest Service should not be selected on the strength of a competitive examination held by the Civil Service Commissioners. The future candidates should be men, who have a chance of taking a university degree, and that would be difficult to arrange, if candidates were selected as in the past. They should, in future, have given evidence of a proper school education and a sufficient knowledge of those branches of science upon which scientific forestry rests. Hence, I should provisionally nominate the candidates from among the men who have passed:—

In the case of *Oxford*: A. Responsions, and B. the preliminary examination in the Honour School of Natural Science; the latter they can pass after one year's residence at Oxford.

Or, in the case of *Cambridge*: A. The previous examination, and B. Part I. of the Natural Science Tripos, which they can pass after two years' residence at the university.

After nomination the candidates will receive two years' instruction in special subjects to be enumerated in paragraph 9. This would sum up to a residence of three years in the case of Oxford, and four years in the case of Cambridge. Four years seems to me too long, and the course of study at Cambridge could be compressed into three years, only by hurrying through the special subjects in the space of one year, a procedure to which I am strongly opposed.

9. The complete scheme is exhibited below:—

Candidates must have passed:—

At Oxford.	*At Cambridge.*
A. Responsions.	A. The Previous Examination.
B. In the Honour School of Natural Science:—the Preliminary Examination in:—	B. In the Natural Science Tripos:— Part I., comprising:—
(1) Mechanics and Physics.	(1) Physics.
(2) Chemistry.	(2) Chemistry.
(3) Zoology.	(3) Zoology.
(4) Botany.	(4) Botany.

C.—*Special Course.*

Candidates will receive special instruction in the following subjects:—

(1) Elementary Organic Chemistry, and Chemistry of Soils.

(2) Geology.

(3) Forest Entomology.

(4) Forest Botany.

(5) Forestry.

(6) Geometrical Drawing, Plane Trigonometry and Surveying.

(7) German.

(8) Engineering (elementary).

(9) Book-keeping, in reference to Indian Forest Accounts.

* Not printed.

During the two years of the special course, excursions will be made, during term time, to forests and woods in the immediate vicinity; during the vacations to more distant forests, in Britain and Normandy.

D.—*A practical course in Forestry in Germany extending over nine months, as at present.*

10. As regards the obtaining of the B.A. degree, the authorities of the university, where it is proposed to start, should be addressed, with a view of their admitting the examination in our special subjects, enumerated above under C., in lieu of passing in the special subjects now prescribed by the university. There may be some difficulty in this respect. If the authorities of the university are not prepared to grant a degree on those lines, then the candidates, who satisfy the examiners, will be granted a "Diploma in Forestry" until such time, when the study of Forest Science will be more fully appreciated than it is at present. In the meantime, capable students may take their degree by passing the final examinations in one of the subjects approved of by the existing university regulations. This would, presumably, be Botany.

11. In case the Secretary of State for India decides on starting at Oxford, I add the following additional observations:—

The provisional nomination of the candidates for the Indian Forest Service should be made at the end of Trinity term (July) from those undergraduates who have, as already stated, passed the Preliminary Examination in the Honour School of Natural Science. It is a "pass" examination. Hence all candidates for the Indian service should, before the commencement of the examination, intimate their intention to the Examination Committee. As soon as the list of the passed men comes out, a Committee of, say, three members should draw up a list of the candidates for service in India, according to merit, based upon the reports of the examiners and, if necessary, on inspection of the examination papers. They should then proceed to select the required number of candidates, giving due weight to their standing on the list, but not overlooking other necessary qualifications. It will be advisable that the selected candidates should at this stage be medically examined so as to see whether they are fit for service in India. This examination would be in the interest of the candidates, the actual appointment to the Indian Forest Service depending on the medical examination at the end of the whole course of instruction.

This Committee might consist of:—

(1) The Professor of Forestry.

(2) A member of the Examination Committee nominated by the university.

(3) A member nominated by the Secretary of State for India.

The list of selected candidates would forthwith be submitted to the Secretary of State for India for approval.

I understand that at present about 40 undergraduates present themselves annually for the Preliminary Examination, but it is believed that the number would considerably increase, if these nominations were announced a year beforehand.

12. The selected candidates would commence their special course of instruction in October, and continue it for two academical years, that is to say, until July in the second year. The special subjects of study should be arranged into two lists, and the examination should be divided into two parts. Part I. to be taken at the end of the second academical year and Part II. at the end of the third. The division of the special subjects into Parts I. and II. cannot be made until it has been decided where the School of Forestry is to be established. Candidates will be required to satisfy the examiners in each of these two examinations, failing which they will forfeit their nomination to the Indian Service. The candidates who have satisfied the examiners in the special subjects and obtained the Diploma in Forestry (or their degree, as the case may be) will, on the 1st October following, proceed to Germany for a practical course of nine months' duration. On the completion of this course, if they have acquitted themselves to the satisfaction of the officer in charge, they will be appointed to the Indian Forest Department, provided they pass the final Medical Board.

13. The period of training thus comprises four years, counting from the date when the men leave school; this period is, in the majority of cases, the same as under existing conditions. Most of the men have, before joining at Coopers Hill, spent a year in preparing for the competitive examination. Their average age is about 19 when joining and 22 when going out to India. Under the arrangements now proposed the men can join at Oxford at the age of 18, and be ready to proceed to India when 22 years old. To send them to India at an earlier age is very much to be deprecated. On this point I hold the same views as the late Mr. H. C. Hill, who only a short time before his death wrote to me on the subject, strongly urging that the candidates should not come to India at too early an age. As to the cost of the course to the students, I am satisfied that it will not be greater, and probably smaller, than under the present arrangements. I am informed that a student can get board, lodging, and tuition, at an Oxford College for £120 during the first year, and about £140 during the second and third years, for which he pays £180 at Coopers Hill College.

14. Turning now to the special arrangements to be made at Oxford, in case we go there, I understand that the university authorities are prepared to provide the required instruction, on the assumption that the Government of India pays the emoluments of the Professor of Forestry and his assistant. This would involve, on the part of the Government, under existing conditions an expenditure of—

	£	s.	d.
Pay and house allowance of the Professor	816	13	4
Pay of the Assistant Professor	500	0	0
Travelling expenses of the Professor and his assistant, say	83	7	8
Total	£1,400	0	0

The Professor of Forestry would, at any rate for the present, continue to supervise the students while on their practical course on the continent.

Of the special subjects of study, Organic Chemistry, Chemistry of Soils, Geology, Entomology, and German can be taught by the existing staff of the university, and in a satisfactory manner. The authorities at Oxford are now occupied in establishing a course of instruction in Surveying. Instruction in Geometrical Drawing and Plane Trigonometry is also available. For instruction in Forest Botany the authorities are, I understand, willing to utilise the now vacant Sibthorpian Professorship of Rural Economy and to augment the emoluments to an amount sufficient to secure the services of a competent teacher. It might, however, be as well to suggest that the appointment of Reader in Forest Botany should be made only after consulting the Professor of Forestry. The syllabus of the studies in this subject should be drawn up, jointly, by the Reader in Forest Botany and the Professor of Forestry.

The study of forestry should extend to Sylviculture, Forest Protection, Forest Utilisation, Forest Management and Administration, and to Forest Law. The teaching would be done by the Professor of Forestry and his assistant. Their pay should be guaranteed by the Secretary of State for a number of years, when the question might be reconsidered. By that time, I have no doubt, a regular School of Forestry will have been established at Oxford, where, in addition to the candidates for India, a number of students preparing for service in the Colonies, and even in these islands, will be found taking advantage of the opportunities thus offered for the study of a subject which is, year by year, becoming of greater importance to the Empire.

Book-keeping with reference to Indian forest accounts has, for years past, been taught by me, and as long as I hold my present post, I should continue doing so.

By way of engineering the students have hitherto been given ten lectures on road-making, laying down tramways, and the antiseptic treatment of timber. Part of this would continue to be dealt with under the head of Surveying, and the rest could be attended to by one of the Lecturers in Forestry, until other arrangements can be made. Road construction is also attended to during the practical course in Germany.

15. It will be necessary to secure near Oxford an area of, say, 100 acres for a forest garden and experimental area. I understand that there would be no difficulty in obtaining the land on a long lease at an annual outlay of £50 to £75. Possibly, land belonging to one of the colleges may be obtainable. On this area we should establish a forest nursery for the practical instruction of the students, and the rest would by degrees be planted up so as to produce small woods for further practical instruction. The area would have to be fenced at a cost of about £120, and there should be a man in charge at a cost of, say, £70 a year. All other expenses would be covered by the sale of plants.

16. There remains the question of accommodation. Lecture rooms and laboratories are available for all branches except for forestry proper. For the latter we should require a lecture room, a Professor's room and a museum. I understand that two moderate-sized rooms and a temporary shed are available at the new museum, but, after a personal inspection, I do not consider that accommodation sufficient as a permanent settlement of the question. With a view to securing appropriate accommodation for the Forest School, the Secretary of State for India may, perhaps, be willing to give a grant-in-aid towards the erection of a modest building in a suitable situation, on the condition that the university finds the rest.

17. In case the Secretary of State for India should accept the above proposals, it would be essential, that a notice should be issued early in October to the effect that a certain number of candidates for the Indian Forest Service will provisionally be nominated in July, 1905.

18. The case of the forest students at Coopers Hill, whose course of study may be incomplete when Coopers Hill College is closed, will be very simple. We should take them with us to Oxford, lodge them suitably and complete their course of instruction in the usual way. The fees paid by them would be quite sufficient to meet all necessary expenses.

19. Should His Majesty's Secretary of State for India prefer to start at Cambridge, then arrangements similar to those now proposed for Oxford would have to be made.

W. SCHLICH,
Principal Professor of Forestry,
Coopers Hill College.

Coopers Hill,
30th May, 1904.

No. 5.

Letter from the Vice-Chancellor of the University of Cambridge to the Secretary of State for India, dated the 8th July, 1904.

May I call your attention to the following matters relating to the University of Cambridge and the teaching of Forestry to those who are studying for the Public Works Department?

In consequence of a Report of a Departmental Committee appointed by the Board of Agriculture to inquire into British Forestry (a copy of which I enclose), and in particular of its recommendation (see page 4) as to Oxford and Cambridge, the Board of Agricultural Studies in this University considered the question of teaching Forestry in the University, and drew up a Memorandum, of which I enclose copies. This Memorandum shows what the Board of Agricultural Studies propose as to the teaching of Forestry in Cambridge.

In the Report of the Committee of Enquiry into matters connected with the Royal Indian Engineering College, the following Recommendation of the Committee occurs (paragraph 35):—

> "On the whole, looking to the evidence given by Sir W. Thiselton-Dyer as to the facilities at Cambridge, we recommend that for the immediate future, at any rate, an arrangement should be made with that University. For the present, the candidates may be selected, as now, by the Civil Service Commissioners, and required to go to Cambridge for their Forest Education as they now go to Coopers Hill."

We have not as yet had any official communication on this matter. In view of the development of the Departments of Botany and of Agriculture in this University, we venture earnestly to hope that the above Recommendation of the Committee as to the University of Cambridge will receive favourable consideration.

The Departments of Botany and of Agriculture in Cambridge, as I have already implied, have greatly developed lately. The new Botanical Laboratory, opened by His Majesty the King on last March 1st, with its very complete equipment is a sufficient guarantee that these studies are now carried on in Cambridge under the best conditions.

I am *ex officio* Chairman of the Board of Agricultural Studies, and I need hardly add that I shall be very happy to furnish you with any information which you may desire.

I am, &c.,
(Signed) F. H. CHASE,
Vice-Chancellor.

Enclosure in No. 5.

University of Cambridge.—Department of Agriculture.

Report of Committee appointed by the Board of Agricultural Studies to consider the Recommendations of the Departmental Committee on British Forestry.

We have considered the Report of the Departmental Committee on British Forestry appointed by the President of the Board of Agriculture, and we have also had before us the Minutes of Evidence. The points which more especially concern the University are:—

(1) That the Departmental Committee recommends the provision of instruction in Forestry by the University (Report, page 9).

(2) That the Committee suggests the transference of the Forestry students from Coopers Hill to a University centre (Report, page 5).

(3) That the transference of the Forest School from Coopers Hill to Cambridge has been recommended to the Secretary of State for India (Minutes of Evidence, page 205).

It has also come to our knowledge that the question of transferring the Forest School from Coopers Hill to Cambridge, has been referred to a Committee recently appointed to report on the Royal Indian Engineering College.

In the event of the above recommendations being carried out, instruction would be necessary for two classes of students, viz., for professional foresters, and for agriculturists (land owners and agents).

Students of Forestry.

We have carefully considered the requirements of these students, and we have come to the conclusion that the greater part of the necessary training could be given in the University, but that instruction in the purely technical subjects must be provided at a properly-staffed forest school.

A school of the kind required could not be located in Cambridge, for it must be in or near established woods.

If, however, a State School for practical forestry were maintained at Coopers Hill or elsewhere, it could be used to supplement the theoretical instruction given in Cambridge, and we would suggest the following course as suitable for training Indian, Colonial, and other foresters.

Course of Study.

The course of study would extend over three University years, the months of July, August, and September in the first and second years being spent at a forest school. At the end of the third year candidates for the Indian and Colonial Forest Services would be selected by an appropriate examination held either by Government or by the University, and we suggest that selected candidates should spend a further period of from six months to one year in the study of practical forestry in British and foreign forests.

The course of examinations taken by a student might be on the following lines:—

(1) At entrance, the Previous Examination, with additional subjects.

(2) At the end of the first year (June) Part I. of the Examination in Agricultural Science (Physics, Chemistry, Botany, and Geology).

(3) At the end of the second year (June) Part I. of the Natural Sciences Tripos (Chemistry, Botany, and Geology).

(4) At the end of the third year (June) the student would be entitled to graduate B.A. without a further examination. The special examination in Forestry for the selection of candidates, and possibly for a certificate in the subject, might be taken during the following Long Vacation.

While we do not at this stage wish to lay down a definite scheme for the Examination in Forestry, we have prepared a schedule to show the character of the course which we think would be desirable.

Schedule.

(*a.*) Sylviculture. Forest Soils. Characters of the chief timber trees. Sylvicultural systems. Formation of Woods, Planting, Thinning, Felling, &c. Surveying and Mapping of forest areas. Measuring and estimating yield of forests. Forest accounts.

(*b.*) Diseases of Trees:—

(i.) Forest Mycology.

(ii.) Forest Entomology.

(iii.) Injuries caused by frost, game, &c.

(*c.*) Forest produce. Structure, properties, preservation and conversion of timber. Minor forest products.

Arrangement of Studies.

The preliminary scientific studies would occupy nearly the whole of the time of the student during the first six terms of his residence at the University, but in the Lent or May Term of his first year, he would attend a class on Forestry designed to give him a general introduction to the subject. During the two Long Vacations at the Forest School, attention would be given to the habits and characters of trees, to methods of planting, sowing, selection for thinning and felling, to forest surveying, measuring, and book-keeping, and to the preparation of timber for market. The third year at the University would be spent in reading for the forestry examination, and in laboratory work in connection with Mycology, Entomology, and the Structure and Properties of Timbers.

Instruction.

The course in the general principles of forestry would require the services of a special lecturer. If the Director of the Forest School, or one of his assistants, were appointed University Lecturer in Forestry, this would afford the necessary connection with the University suggested by the Departmental Committee. Technical Chemistry might be studied in the Agricultural Department, and the Entomologist who teaches agricultural students might also undertake the teaching of Forest Entomology. In view of the large amount of Botanical work, it would probably be necessary to appoint a lecturer in Forest Botany to assist the Professor.

Advantages of Course.

The course outlined would give the usual Christmas and Easter Vacations and about a fortnight at Midsummer, or ten weeks' holiday in the year. The out-of-door work at the forest school would provide a complete change from Cambridge Laboratories, and the suggested vacations should prove sufficient. Agricultural students usually go to farms in different parts of the country during the Long Vacation, and the Forest students at Yale and Cornell Universities are sent to forest schools for the summer

months, so that were the foregoing suggestions carried into effect, Cambridge Forestry students would be following the usual course. The advantages which we claim for the scheme are:—

(1) That University graduates may be prepared for Indian and Colonial Forest Service.

(2) That the entire scientific training may be given at the University.

(3) That the instruction in practical sylviculture may be given at the most suitable centres in the country.

(4) That research in forestal problems could be carried on in the laboratories of the University. Every facility and encouragement for research would be provided.

Agricultural Students.

The ordinary requirements of agricultural students would be met by attending the elementary class on forestry. Young land-owners and others specially interested would also have an opportunity of attending some of the special classes provided for forest students, such as those on the Diseases of Trees. It would further be desirable that such students should spend a summer in studying practical sylviculture at the Forest School.

Demonstration Plots.

The Botanic Gardens provide specimens of all the common trees, and if, as we have suggested, those agricultural students interested in forestry were to go for a term to a forest school, we do not think it would be necessary to establish demonstration forest plots at Cambridge. We think it likely, however, that local woods would be available for teaching purposes, for land-owners would doubtless permit the Lecturer in Forestry to lay out experimental plots in their woods, in the same way that they now permit land to be used for agricultural experiments. We are of opinion that the Botanic Gardens and local woods would furnish as much material for illustrative purposes as the Lecturer in Forestry could utilise while the students were in residence.

Recommendation.

The above appears to this Committee to show that it is practicable in a large measure to give effect to the suggestion contained in the Report of the Departmental Committee, and should the Board agree in this view, the Committee are prepared to open communication with the proper authorities with a view to fuller discussion of the subject.

[The above Report was presented to the Board of Agricultural Studies of the University, and received its approval. The Committee, consisting of Professor Marshall Ward, Professor Middleton, and Dr. D. MacAlister, were empowered to take such further steps as might be deemed desirable.]

26th January, 1904.

No. 6.

Letter from the India Office to the Vice-Chancellor of the University of Cambridge, dated the 11th July, 1904.

I am directed to acknowledge the receipt of your letter of the 8th instant, which will receive attention.

I am, &c.,

(Signed) A. GODLEY.

No. 7.

Letter from the India Office to the Vice-Chancellor of the University of Oxford, dated the 19th August, 1904.

I am directed by the Secretary of State for India in Council to inform you that he has recently had under his consideration the future arrangements which should be made for the selection and training of probationers for the Indian Forest Service, in view of the intention to close the Royal Indian Engineering College at Coopers Hill in 1906. Mr. Brodrick is, therefore, anxious to ascertain whether and to what extent he can secure the co-operation of the University of Oxford in this matter.

2. As at present advised, the Secretary of State considers that the candidates chosen for the Forest Service should be selected by open competition from candidates declared eligible by him. After their selection, it is desired that the selected candidates should become, in case they are not already, members of the University of Oxford, and should undergo there a special course of instruction to be followed by a brief period of training in Germany. It is hoped that the University may be able to offer to the selected candidates facilities for acquiring a degree. The part, then, which the University is asked to take in the scheme thus outlined affects three stages—the first, that of selection by examiners; the second, that of subsequent education; and, finally, the grant of degrees.

3. As regards the first of these points, it is desired to maintain the principle of open competition, subject only to such regulations as to eligibility as this Office may eventually issue. A list of candidates desiring to compete for the vacancies in each year would be kept in this Office, and in due course it would be furnished, when revised under the regulations, to the authority responsible for the examination. I am to enquire whether the University would undertake to conduct that examination at Oxford, and forward to this Office the names of the selected candidates. Inasmuch as these selected candidates will thereupon, if this plan is carried out, become members of the University (if they are not members already), I am to enquire what general acquirements will be expected of them by the University. Either the examination for the Forest Service might include a paper which would test these general acquirements, or the test can be applied at an earlier stage at the time the candidates' names are registered in this Office. It might, for instance, meet the requirements of the University, if candidates before admission to the Secretary of State's list, were required to have passed Responsions or any one of the alternative examinations accepted by the University as equivalent to Responsions. As to the competitive examination to be held at Oxford for selection, it is believed that the subjects required for the preliminary examination of the Honours School of Natural Science, *i.e.*, Mechanics, Chemistry, Zoology, and Botany, would afford a good test, and so far as concerns those competitors who are undergraduates of Oxford, it might be possible to utilise the results of that examination for the purposes of selection, holding a simultaneous examination in the same papers for candidates from other Universities or schools entered in the list furnished by this Office. I am to invite an expression of opinion on this proposal and to say that the Secretary of State will be happy to consider any other alternative suggested by you.

4. The candidates having been selected by the results of the above examination would be required to enter into residence at Oxford, if not already in residence, in the month of October following their selection, and to continue their studies for two academical years. On this part of the scheme I am to give an outline of the provision which it will be necessary to make for instruction and other means of carrying out the proposals. The Secretary of State for India would be prepared to arrange for the residence at Oxford of the Professor and Assistant Professor of Forestry now engaged at Coopers Hill, and to pay for their services. The University

might, it is suggested, entrust to the Sibthorpian Professor of Rural Economy the duty of giving lectures in Forest Botany, and perhaps consult the Secretary of State as to his appointment. The two Professors thus named might jointly draw up a syllabus of the course to be studied in Forest Botany. The University provides, it is believed, instruction in Organic Chemistry, Chemistry of Soils, Geology, Entomology, Surveying, Geometrical Drawing, Plane Trigonometry, and German. If the University can render available at the outset temporary accommodation for a lecture room, a room for the Professor of Forestry, and a Museum of Forestry, the improvement of that accommodation may be made a matter of arrangement between it and the India Office. The Secretary of State for India would be prepared to provide and maintain a Forest Garden at Oxford. Any arrangements which might be made on the basis of the scheme just described would be subject to reconsideration at the end of five years.

5. Passing on to the special course of instruction to be pursued by the probationers, I am to say that it should comprise the following subjects:—

(1.) Elementary Organic Chemistry and the Chemistry of Soils.
(2.) Geology.
(3.) Forest Entomology.
(4.) Forest Botany.
(5.) Forestry.
(6.) Geometrical Drawing, Plane Trigonometry, and Surveying.
(7.) German.
(8.) Engineering (elementary).
(9.) Book-keeping in reference to Indian Forest Accounts.

In the course of the two years during which they would be receiving instruction in these subjects they would visit, during term time, woods and forests in the vicinity of Oxford, and, during the vacations, more distant forests in the United Kingdom or on the Continent.

At the end of the two years their training at Oxford University would be completed.

6. On leaving Oxford the probationers would further be required to undergo (in the third year after their selection) a practical course in Forestry in Germany, which would extend over nine months, as at present.

On completion of such course, they would be finally appointed to the Indian Forest Service.

It would be required that their conduct and course of study should have been considered satisfactory at all stages by the Secretary of State in Council.

7. Lastly, I am directed to refer to the subject of degrees, diplomas, and University distinctions. The Secretary of State in Council would consider it a matter for regret were these probationers to be debarred from, or hindered in, obtaining a University degree by reason of the fact that their studies had been specialised for Indian needs. He is aware that it would be open to such of them as were desirous of so doing to adjust their studies in such a way as to qualify for a degree in the ordinary course, presumably in Botany. But it can hardly be doubted that their special course of study would to some extent be thereby interfered with.

8. I am accordingly to inquire whether the University authorities would be willing to admit the special subjects which the probationers would be required to study as subjects in which a degree in Forestry could be acquired. The Secretary of State in Council recognises that this is not a matter in which he can press his own opinion, but he desires to commend

it earnestly to the attention of the University authorities. If it be decided that a degree in Forestry cannot properly be given, a "Diploma in Forestry" might perhaps take its place.

9. The Secretary of State would be glad to receive an early reply on the suggestions contained in this letter. He considers it important that, if possible, a notice should be issued early in October to the effect that a certain number of probationers for the Indian Forest Service will be selected in the manner proposed in the summer of 1905.

10. It should be added that the number of Forest Officers required by India is about 8 or 10 a year, and that arrangements may have to be made to select and train one or two probationers for service in the Colonies in the same manner as the probationers for the Indian Service.

I have, &c.,

(Signed) A. GODLEY.

No. 8.

Letter from the President of Magdalen College, Oxford, to the India Office, dated the 25th October, 1904.

COOPERS HILL COLLEGE. FORESTRY STUDENTS.

You will remember the letter which you wrote to the Vice-Chancellor on August 19th, 1904, dealing with the question of the future arrangements for the selection and training of probationers for the Indian Forest Service, and enquiring whether and to what extent the co-operation of the University of Oxford in this matter could be secured. I am asked by the Hebdomadal Council to write to you on the matter, and to say that the Council has, on meeting again after the Long Vacation, taken your important letter into consideration and wishes me to reply in the following sense. The Council would be glad to see the University co-operate in this matter. They appreciate the offer made by the Secretary of State for India to arrange for the residence at Oxford of a Professor and Assistant Professor of Forestry now engaged at Coopers Hill and to pay for their services, and also to provide and maintain the Forest garden at Oxford, and in the future to consider the improvement of any accommodation made for a lecture room, Professor's room and forestry museum. Such help would go a considerable way to enable the University to undertake and carry on the work desired. With regard to the scheme suggested, taking the three sections indicated by you in your letter in order, namely, (1) Selection by examiners; (2) Subsequent education; (3) The granting of degrees. I am to say:—

(1) *Selection.*

The Council are of opinion that the University could without difficulty hold such a competitive examination for the selection of candidates as you suggest, in June annually here, and that it would be possible to utilise the preliminary examination of the Honour School of Natural Science for this purpose. If a separate examination should prove to be necessary, some provision would have to be made to meet the expense, but we hope that it would not be necessary. We should welcome and gladly recommend the adoption of the suggestion made in your letter that all candidates for admission on the Secretary of State's list should be required to have passed Responsions or an equivalent examination.

(2) *Subsequent Education.*

We think that all the subjects required are either already taught in the University or the teaching of them could be arranged for without difficulty, excepting Forest Botany and Forest Entomology. With regard to these we have reason to hope that the University might with the aid of a College be able to provide for the first (Forest Botany), if for the teaching of the second, namely, Forest Entomology, a sum of about two hundred pounds per annum for a Lecturer and Assistant could be provided from some external source. We also think that the University could provide the temporary accommodation which you indicate is needed for a lecture room, for a Professor and for a museum of forestry, in the hope, already noted, that you would be able later on to consider the improvement of such accommodation.

(3) *Degrees and Diplomas.*

We do not feel able to recommend to the University that a special Degree for Forestry should be established, but we think on careful and repeated consideration that a student could take Honours in one of the existing Honour Schools such as Botany, Geology, or Chemistry without any undue interference with his special studies. The University, as you probably are aware, requires ordinarily three years' residence for a degree, but if students after matriculating spent, as you seem to contemplate, one year at Oxford for the preparing for the examination for selection (which would, moreover, if it consisted as you suggest of the University preliminary examination, be part of their degree course), and then two years further of their special course as you suggest, they would be qualified by residence. Of any others who might come in at a later stage from outside, not a few would probably be able to avail themselves of the special privileges granted to students from affiliated Colleges and to Colonial or Foreign students, from all of whom only two years' residence is required. We should be prepared to adopt the Secretary of State's alternative proposal and to recommend to the University the establishment of a Diploma in Forestry. You will see then, that we really are able to welcome and fall in with almost all the suggestions contained in your letter. For carrying out the plans suggested, there remains the question of the Sibthorpian Professorship. We think with you that the Sibthorpian Professor might be entrusted with the duty of giving lectures in Forest Botany. There are, however, certain difficulties connected with the Chair as at present constituted, to which we think we ought to call your attention, and which I think it would be most convenient to deal with in a separate Appendix. We do not feel able to adopt the suggestion, which, however, I see is only a suggestion, that the Secretary of State should be formally consulted as to his appointment, but we do not think that this need cause any difficulty, more particularly if the assistance in endowing the Chair, at which I have hinted above, should be forthcoming. You will see then that we are able to accept and indeed to welcome practically all the suggestions as they are made in one or other form in your letter. The only difficulty which we foresee is in providing for the teaching of Forest Entomology. This could be arranged for in the Department of the Hope Professor of Zoology, but this Department, which is poorly endowed, would need additional assistance to the extent of two hundred pounds a year. If, then, you could see your way to enabling us to get over this obstacle, we are not aware of any other that would prevent our carrying out such a scheme as your letter suggests. I am desired, however, to ask two questions as to points on which we should wish to be informed. First, whether you would propose any limits of age for the Forestry students, and if so, what these would be; and secondly, whether the selected students would receive any grants from the Government during their residence. If there is any further question which you on your side would like to ask, or if you have any further suggestion to make, you will of course not hesitate to write again.

We have a Committee of Council to which any question could be referred, and the Council itself is very anxious to get on with the matter and carry it to a favourable issue.

In conclusion, let me ask you to express to the Secretary of State our appreciation of his attitude in the matter, and our desire to meet his views, which I hope he will consider we have endeavoured to do, as fully as possible.

I am, &c.,

(Signed) T. HERBERT WARREN,
President of Magdalen College.

Enclosure in No. 8.

Appendix on the Sibthorpian Professorship.

The present position of the Sibthorpian Professorship, as will be seen from the copy of the Statute relating to it which I enclose, is somewhat peculiar. It is under a scheme sanctioned by the Chancery Division of the High Court of Justice on the fourteenth day of July, 1883. The Professor, it should be noted, holds office for three years and may then be re-elected for three years more, six years in all, but not for more than six years consecutively. The endowment ought to bring in two hundred pounds a year (£200), but in the present position of the estate does not bring in more than one hundred and thirty pounds a year (£130), and the University has had to recourse to the plan of allowing sufficient funds to accumulate to elect the Professor for three years and then allowing the Chair to be vacant until there was again sufficient accumulation to pay at the rate of two hundred pounds a year for three years. Six years would of course cover the period of five years suggested in Sir Arthur Godley's letter as the period for which any arrangement might first be made, and, perhaps, before the end of that period some new arrangement of the Chair might be effected, but in the meantime it has been thought well to call the attention of the India Office to the present state of things.

Annexure.

Sibthorpian Professor of Rural Economy.

The following scheme for the Regulation of the Sibthorpian Professorship was sanctioned by the Chancery Division of the High Court of Justice on the 14th day of July, 1883.

1. The Sibthorpian Professor of Rural Economy shall lecture and give instruction on the scientific principles of Agriculture and Forestry.

2. He shall be entitled to the emolument of £200 derived from the Benefaction of Dr. John Sibthorp, Doctor of Medicine, and assigned to the Professorship.

3. The Professor shall be elected by a Board of Electors consisting of—

The Vice-Chancellor,
The Sherardian Professor of Botany,
The Professor of Geology,
The Waynflete Professor of Physiology,
The Waynflete Professor of Chemistry,
The President of the Royal Society,
The President of the Linnæan Society.

4. If an Elector is himself a Candidate for the vacant office, the Hebdomadal Council shall nominate a person to act on that occasion in his room.

5. The Professor shall hold his office for a period of three years from election, and no longer. He may be re-elected for a second period of three years, and no longer; but no Professor shall hold the Professorship for more than six years consecutively.

6. The Professor shall have the use of the garden appropriated for making experiments on the subjects of his Professorship.

7. The balance of the emoluments derived from the benefaction of Dr. John Sibthorp shall be applied as directed in his Will to the purchase of books on the subjects of agriculture and forestry, the Professor making a list of such books as he judges most useful. The said books and also those which have heretofore been purchased out of Dr. John Sibthorp's Benefaction, and also those which were bequeathed by Dr. John Sibthorp, shall be carefully preserved under the care of the Professor in a place to be assigned for the purpose by the University.

8. The Professor shall give not less than twelve Lectures in the course of the academical year: they shall be given in full Term, and not more than two shall be given in any one week.

No. 9.

Letter from the Vice-Chancellor of the University of Cambridge to the India Office, dated the 22nd November, 1904.

My predecessor in office, the late Vice-Chancellor, on Monday last reported to the Council of the Senate of this University the action he had taken during the Long Vacation of this year in communicating to you in a letter dated July 8, 1904, the outline of a scheme for providing at Cambridge the preliminary training of students in the science of Forestry. The letter written by the late Vice-Chancellor was prompted by the reference (on page 22 of the Reports and Correspondence relating to the Royal Indian Engineering College, 1904) to Cambridge University as offering facilities which would make Cambridge a suitable place to which selected candidates in Forestry might be sent instead of as now to Coopers Hill College.

The Council of the Senate, deeming that possibly the Long Vacation may have been thought to be an inconvenient time for making communications to the University, have requested me to ask whether at this stage in the Academic year they may expect to receive some reply—as they hope, of a favourable nature—to the letter of the late Vice-Chancellor, the Rev. Dr. Chase, dated July 8, 1904.

I enclose another copy of the scheme, referred to above, which was sent in July with Dr. Chase's letter.

I have, &c.,

(Signed) EDWARD A. BECK,

Vice-Chancellor of the University of Cambridge.

No. 10.

Letter from the India Office to the Vice-Chancellor of the University of Cambridge, dated the 28th November, 1904.

I am directed by the Secretary of State for India in Council to refer to the letter, dated 8th July, 1904, which you addressed to him on the subject of the recommendation made by the Committee which enquired into matters connected with the Royal Indian Engineering College, that Cambridge should be appointed as the place for training probationers selected for the India Forest Department.

I am to express regret for the delay which has occurred in answering your letter, and to explain that the Secretary of State was at the time in communication with the University of Oxford with a view to the establishment of a School of Forestry there for the training of Indian forest students, and that he thought it advisable to await the issue of the proposals which he had made to that University.

I am now to forward for your information a copy of correspondence* between this Office and the University of Oxford, and a preliminary draft† of regulations for the selection and training of probationers for the Indian Forest Service.

I am to say that the draft is still in an incomplete state, and has not been finally accepted by the University of Oxford. The Secretary of State for India has decided to communicate it to you without further delay, as he will be glad to receive any observations which the University of Cambridge may desire to make respecting the details of the proposed scheme for the selection of probationers.

I am, &c.,

(Signed) HORACE WALPOLE.

No. 11.

Letter from the Vice-Chancellor of the University of Cambridge to the Under Secretary of State for India, dated the 5th December, 1904.

I have now the honour to reply more fully, at the request of the Council of the Senate, to your communication dated 28th November, 1904, in which you inform me that the proposed scheme for the transference of the Forestry School from Coopers Hill to Oxford is still in an incomplete state, and that the Secretary of State for India in Council will be glad to receive any observations which the University of Cambridge may desire to make respecting the details of the proposed scheme for the selection of probationers.

The observations which the Council of the Senate desire to make may be conveniently distributed under the following heads:—

(1) The claims of Cambridge for consideration as a place of training for Forestry students;

(2) The manner in which the scheme as drafted by the India Office in connection with Oxford will affect Cambridge;

(3) The importance of equality of treatment as between Oxford and Cambridge with reference to the supply of candidates for the Public Service;

(4) Suggestions for an amendment of the scheme.

1. With regard to the claims of Cambridge I beg leave to point out that Cambridge is already fully equipped in all the requirements of the draft scheme, except the appointment of lecturers on Forestry. As sufficient evidence of this I would refer to the printed scheme sent by the Vice-Chancellor to the Secretary of State for India on July 8th, and again on November 25th of this year, and to the Reports of Departmental Committees published within the last twelve months in favour of Cambridge as a School for Forestry.

Further, the University has already an examination for a Diploma in Agriculture in which most of the subjects are the same as those required as a test of training in Forestry. The Council is of opinion that the

---

* Nos. 7 and 8. † Substantially the same as that enclosed in No. 12.

University would sanction a modification of the regulations for that examination which would enable it to serve as an examination for a Diploma in Forestry; and students may and do take Agriculture as the subject of their final examination for the ordinary B.A. degree. The Council anticipate no difficulty in the carrying out of arrangements (as suggested in section 5 of the letter of Sir A. Godley to the Vice-Chancellor of Oxford University, 19th August, 1904) for the necessary excursions of students during the Terms. Arrangements for vacation study outside Cambridge in or near Forests would be merely an extension of a practice already common in the case of Engineering and Mining Students, who spend a portion of their vacations in Engineering Works and Mines.

2. With regard to the manner in which the scheme as drafted by the India Office will affect Cambridge, the Council of the Senate desire me to express unhesitatingly their conviction that the scheme will have the effect of excluding Cambridge from any share in supplying candidates for the Indian and Colonial Forest Service. In face of the proposed regulations, if they should be adopted, no schoolmaster could venture to recommend any pupil destined for the Forest Service to come to Cambridge. The necessity imposed upon Cambridge men to migrate in the middle of their course to Oxford would to loyal members of the University and their respective Colleges be just as unpopular as the converse migration would be to Oxford men. And the Council venture to think that the proposal to place entirely in the hands of another University the conduct of an Examination by which the fate of Cambridge students is to be decided is absolutely without precedent.

3. With regard to the principle hitherto admitted as sound in the interests of the Public Service, that there should be equality of treatment between the two ancient Universities, the Council have confidence that the Secretary of State for India will see his way to some amendment of the scheme by which the inequality as between Oxford and Cambridge may be redressed. The Council do not wish to press that any favour should be shown to Cambridge which may not similarly be accorded to Oxford. But, having regard to the recommendations of Departmental Committees already referred to, they consider that at least the opportunity should be allowed to the University of giving proof that it is fully able under equitable regulations to meet the demands of the Public Service in Forestry as in other departments.

4. Lastly the Council in response to the invitation of the Secretary of State for India offer some suggestions for the amendment of the scheme. The Council fully appreciate the objection which they understand has been raised, on the ground of expense to the Public, to a division of the staff of the Coopers Hill Forestry Class. But they desire to point out that the expense to the Public would be much less if the Forestry Class were transferred to Cambridge than if it were transferred to Oxford, the scientific staff, with the Laboratory accommodation, being larger in the former University. They repeat, as was said above, that they do not desire any special favour to be accorded to Cambridge. But they think that a reasonable plan would be that the selected candidates should be allowed to choose for their period of probation either Oxford or Cambridge, and that each University should receive a subsidy to enable it to provide adequate teaching in Forestry.

The Council then suggest for the consideration of the Secretary of State for India the following amendments:—

(*a*) that the examination held for the selection of probationers in Forestry should be conducted, under the control of the India Office, by examiners taken equally from Oxford and Cambridge; and that the examination should be a joint examination;

(*b*) that the selected candidates should be allowed to choose for the period of probation either Oxford or Cambridge;

(*c*) that a subsidy be made annually to both Universities with the view of enabling them to provide adequate instruction in Forestry.

The Council think it right to inform you that, as in the case of other matters of similar importance, they have consulted the Chancellor of the University with reference to the correspondence between the University and the India Office.

I have, &c.,

(Signed) EDWARD A. BECK,

Vice-Chancellor.

No. 12.

Letter from the India Office to the President of Magdalen College, Oxford, dated the 9th December, 1904.

I am directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 25th October, on the subject of the selection and training of the Probationers for the Indian Forest Service, and to express his thanks for the assistance which the authorities of Oxford University are prepared to give in this matter.

In reply to your letter, I am to inform you that the Secretary of State has caused to be prepared, in communication with the Principal Professor of Forestry at Coopers Hill, Dr. Schlich, the enclosed preliminary draft of Regulations under which the new system might be introduced, and that he has authorised Dr. Schlich to discuss the draft with the authorities of the University in such manner as may be arranged.

Mr. Brodrick would be glad to receive any observations which the authorities of the University may desire to offer after communication with Dr. Schlich.

He desires it at the same time to be understood that the draft does not represent his final opinion in Council on all the matters therein dealt with, and he is awaiting the receipt of any observations which the authorities of the University of Cambridge may desire to offer respecting the details of the proposed scheme for the selection of Probationers.

I am to add, in reply to the enquiries made on certain points in connection with the new arrangements, that—

(1) the Secretary of State in Council would be prepared, if necessary, to contribute a sum of "about £200 a year" for a Lecturer and Assistant in the Department of the Hope Professor of Zoology, to provide for the teaching of Forest Entomology;

(2) the age for admission to the Open Competitive Examination is fixed (provisionally) at not less than 18, or more than 21, years on the 1st January (see paragraph 3 of the draft);

(3) the question as to whether any grants should be made to the Probationers has not yet been fully considered, but a suggestion has been made that a premium of say £50 should be offered to each Probationer who reaches a certain standard in the practical work to be done on the Continent in his third year. In any case the Probationers would be provided with a free passage to India (or its equivalent) on their final appointment.

I am, &c.,

(Signed) HORACE WALPOLE.

Enclosure in No. 12.

Indian Forest Service.—Preliminary Draft of Regulations as to the Appointment of Probationers. 1905.

1. The Secretary of State for India in Council will, in the summer of 1905, make not less than ten appointments of Probationers for the Indian Forest Service, provided that so many candidates are in all respects qualified under the conditions hereinafter set forth, upon the results of a competitive examination to be conducted in June next by the Authorities of the University of Oxford.

2. Applications for admission to the examination must be made on a printed form to be obtained from the Secretary, Judicial and Public Department, India Office, Whitehall, London, S.W., and to be returned to him not later than Monday, the 1st May, 1905.

No applications received after that date will be considered.

3. The age of candidates must not be less than 18, or more than 21, years on the 1st January, 1905.

4. Every candidate must be a natural-born British subject. He must be unmarried, and if he marries before reaching India, he will forfeit his appointment.

5. Every candidate must have passed either the examination of the University of Oxford known as Responsions, or some examination which is accepted by the University Authorities as equivalent thereto.

6. The subjects of the examination indicated in paragraph 1 and the marks assigned to each subject are as follows:—

	Marks.
(1.) Mechanics and Physics	
(2.) Chemistry	
(3.) Zoology	
(4.) Botany	
(5.) German	

The examination in subjects (1) to (4) will be on the lines of the Preliminary Examination in the Honour School of Natural Science. In German, candidates are expected to satisfy the Examiner in translations of unseen passages from German into English and from English into German.

The Syllabus of the Examination forms Appendix I.*

7. A fee of £ is required from every candidate, and instructions as to the manner of payment of this fee, the time and place of the examination, or any other necessary information, will be sent to candidates direct by the University Authorities to the address supplied by the candidates to the India Office.

8. Those candidates who are successful in the competitive examination will be required, shortly after the result of the examination is declared, to undergo a strict examination by a Medical Board at the India Office, at which particular stress will be laid on good vision and hearing.

On passing this medical examination candidates will be deemed to be Probationers for the Indian Forest Service, and must, if not already matriculated members of the University of Oxford, join that University.

9. The period of probation will extend over about three years. For the first two years the Probationers will be required to undergo a special course of study as members of the University of Oxford, and during the remainder of their period of probation they will receive practical instruction, visiting under suitable supervision such Continental forests as may

* Not printed.

be selected for the purpose. Excursions may also be made for purposes of study, both during term time and during part of the vacations.

10. The Probationers will be required to defray all expenses for lodging, board, tuition, and excursions which they may incur during the period of their probation at Oxford. During the three terms of practical instruction on the Continent each Probationer will be required to pay in advance a charge of 60*l.* a term, for which the Secretary of State for India will provide (1) board, lodging, and washing; (2) travelling expenses; and (3) fees to local forest officers, &c.

11. The prescribed course of study for the Probationers comprises the following subjects:—

I.—*Auxiliary Subjects.*

(1.) Elementary Organic Chemistry and the Chemistry of soils.

(2.) Geology.

(3.) Forest Entomology.

(4.) Forest Botany.

(5.) Geometrical Drawing, Mathematics up to and including Plane Trigonometry and Surveying.

(6.) German.

(7.) Engineering (elementary).

(8.) Book-keeping, in reference to Indian Forest Accounts.

II.—*Forestry, Theoretical and Practical, in all its branches.*

12. Every Probationer will be required to conduct himself during the period of probation in a manner satisfactory to the Secretary of State, and to give evidence of satisfactory progress in his studies in such manner as may be required, failing which, or in the event of serious misconduct, he will be liable to have his name removed from the list of the Probationers.

A Probationer may also, at the discretion of the Secretary of State, be required from time to time to appear before the Medical Board, and, should the result be unsatisfactory, he will be liable to have his name removed from the list of Probationers.

13. During the period of probation, the proficiency of the Probationers will be tested by periodical examinations, and on the termination of their studies there will be a final examination.

The Probationers who satisfy the Examiners in these examinations will receive the Diploma of Forestry. It is desirable that they should, if possible, also obtain a degree in the Honour School of Natural Science at the University.

14. Probationers who (1) have obtained the Diploma of Forestry; (2) have completed the practical course in Forestry on the Continent; and (3) are of sound constitution and free from physical defects which would render them unsuitable for employment in the Indian Forest Service, will be appointed Assistant Conservators in the Indian Forest Department in the order of their standing at the end of the Final Examination. Their position on the list will be determined by the results of the examinations held during the two years residence at Oxford and the manner in which they have completed the practical course on the Continent.

15. Every Probationer, before proceeding to India, will be required to satisfy the Secretary of State, in such manner as may be determined,

of his ability to ride. It is desirable that this evidence should be forthcoming before the Probationer proceeds to the Continent for his final period of study.

* * * * * *

(*Paragraphs as to pay, leave, pension, and passage arrangements, &c., to be here inserted.*)

No. 13.

Letter from the Secretary to the Court of the University of Edinburgh to the India Office, dated the 16th December, 1904.

If the University Court have been correctly informed, proposals are being considered by the India Office to modify the existing arrangements for the instruction of candidates in the Forestry Branch of the Indian Civil Service.

As the adoption and promulgation of any serious modification of these arrangements by so powerful a Department of State as the India Office cannot but be attended by far-reaching consequences to this University as well as to other Universities similarly situated in respect of this subject, I am instructed respectfully to inquire whether the India Office will favour the University Court with an outline of the scheme which, it is understood, is under consideration, together with such particulars as the India Office may be able to communicate.

I may state in explanation of the grounds on which the Court venture to prefer this request, that Courses of Instruction in Forestry have been given in the University of Edinburgh for some fourteen years by the University Lecturer in that subject—Colonel Bailey, R.E. (retired)—and that the Court, in addition to other efforts to extend and strengthen this department of teaching, are taking steps to promote an Ordinance which, if sanctioned by His Majesty in Council, will enable the University to confer a University Degree, that of Bachelor of Science in Forestry, on candidates who qualify by a due attendance on the Courses of Instruction and pass the Examinations which may be prescribed.

I have, &c.,

(Signed) M. C. TAYLOR,

Secretary.

No. 14.

Letter from the India Office to the Vice-Chancellor of the University of Cambridge, dated 20th December, 1904.

I am directed to say that your letter of the 5th December, conveying the remarks of the Council of the Senate of the University of Cambridge

on the scheme for the training of Probationers for the Indian Forest Service at Oxford, has received the careful consideration of the Secretary of State in Council.

Mr. Brodrick must observe in the first place that it has been deemed essential that the Professor and Assistant Professor of Forestry, who have hitherto been entrusted with the training of the Forest Students at Coopers Hill, should be placed in charge of the training which the Probationers will in future undergo at a University; and in these circumstances it was obviously inevitable that one University, and not more than one, should be selected for the purpose of affording the necessary education. This essential condition makes it impossible to accept the proposal of your letter that selected candidates should be allowed to choose for the period of their probationary studies either Oxford or Cambridge.

In considering at which of these two Universities the School should be located, Mr. Brodrick had before him the Report of the Committee appointed by the Board of Agricultural Studies at Cambridge to consider the recommendations of the Departmental Committee on British Forestry, a copy of which was forwarded to him with your predecessor's letter of the 8th July last. He found it stated in that report that the Committee had come to the conclusion "that the greater part of the necessary training could be given in the University, but that instruction in the purely technical subjects must be provided at a properly staffed Forest School. A school of the kind required, it was urged, could not be located at Cambridge, for it must be in or near established woods. If, however, a State School for practical Forestry were maintained at Coopers Hill or elsewhere, it could be used to supplement the theoretical instruction given in Cambridge."

He also had before him a report by Dr. Schlich, the Professor of Forestry at Coopers Hill, pointing out that those requisites for practical instruction, the absence of which at Cambridge was admitted, could be supplied at Oxford, where the necessary courses of theoretical study could equally well be carried out.

I am to add that the number of Forest students trained for the Government Service in India is only 9 or 10 per annum, and that it would obviously be impracticable to charge the revenues of India with a large expenditure on account of their training at several centres.

I am, &c.,

(Signed) HORACE WALPOLE.

No. 15.

Letter from the Vice-Chancellor of the University of Cambridge to the India Office, dated the 25th January, 1905.

I reported to the Council of the Senate the substance of what was said on the part of the University and of the India Office on January 19th, when you were good enough to receive a Deputation on the subject of the proposed transference of the Coopers Hill School of Forestry to Oxford.

You will doubtless remember that after explaining the attitude of this University in the matter, the Deputation pressed very strongly two requests which they thought the University entitled to make. These were—

(1) that no final decision shall be taken at present;

(2) that you would invite a conference to be attended by delegates mainly scientific, from the Universities of Oxford and Cambridge, and the scientific or other advisers of the India Office, with the view of framing a scheme which might be acceptable to all three of the bodies named.

These requests are in accordance with the weighty expression of opinion contained in the letter from the Duke of Devonshire, our Chancellor, which I read to you on the occasion of your receiving our Deputation. The Chancellor wrote: "In my view (the question) touches nearly not only the interests of our University, but also the efficiency of the Public Service."

I am now in a position to inform you that in the event of your acceding to these requests, the Council of the Senate are prepared at once to make the necessary appointment of representatives to attend a conference.

It will be a great convenience to the Council if they can hear from you on this matter as soon as possible. Their next meeting is on Monday, January 30.

I am, &c.,

(Signed) EDWARD A. BECK,

Vice-Chancellor.

No. 16.

Letter from the India Office to the Vice-Chancellor of the University of Cambridge, dated the 27th January, 1905.

I am directed by Mr. Brodrick to acknowledge the receipt of your letter of the 25th instant, proposing that a conference should be held to discuss the question of the training of Probationers for service in the Forest Department of the Government of India, to which the University of Cambridge should send representatives.

In reply, I am to say that Mr. Brodrick is willing that such a conferenee should be held, at which two representatives of the University of Cambridge should be present.

He thinks that you are aware that time presses, and he would therefore wish that the conference should meet as soon as possible. It will be necessary to refer the matter to the authorities of the University of Oxford, and to ask them also to send the same number of representatives; but pending their reply, I am to inquire whether Thursday next, the 2nd February, at 12 noon, at this Office, will be a convenient time and place for the conference.

I am, &c.,

(Signed) A. GODLEY.

No. 17.

Letter from the India Office to the President of Magdalen College, Oxford, dated the 27th January, 1905.

The representatives of the University of Cambridge urged, at their recent interview with the Secretary of State, that a conference should be held at this Office to discuss the question of the training of Probationers for the Indian Forest Department, and Mr. Brodrick has decided to accede to their request. He has asked them to nominate two representatives of the University, and has suggested Thursday next, the 2nd February, at 12 noon, as the time of meeting.

He would be very much obliged if the University of Oxford would also nominate two gentlemen to represent their views at the conference, and make arrangements (if it is not inconvenient) for them to attend here at the time suggested.

I am to apologise for giving such short notice; but you are aware that time presses.

Yours, &c.,

(Signed) A. GODLEY.

No. 18.

Letter from the India Office to Sir D. Brandis, K.C.I.E., formerly Inspector General of Forests in India, dated the 30th January, 1905.

I am directed to inform you that, at the request of the University of Cambridge, the Secretary of State for India has decided that a conference shall be held at this Office on Thursday the 2nd February, at 12 noon, to discuss questions relating to the proposed course of study for Probationers for the Indian Forest Department. The University of Cambridge will, it is expected, be represented at the conference by two delegates, and a similar number will, it is hoped, be deputed by the University of Oxford. Dr. Schlich has been asked to be present, and Mr. Brodrick will be much indebted to you if you would consent also to join the conference. The questions to be discussed are of great importance to the future of Forestry in India, and he would greatly value the assistance in arriving at a decision upon them which he would derive from your intimate and unique knowledge of the subject.

I am, &c.,

(Signed) A. GODLEY.

No. 19.

Report of a Conference held at the India Office on Thursday, the 2nd February, 1905.

Present:—

Sir JOHN EDGE, K.C., Chairman.

Representatives of the University of Oxford.
- The PRESIDENT OF MAGDALEN COLLEGE, Oxford.
- Prof. H. A. MIERS, D.Sc., F.R.S., Magdalen College, Oxford.

Representatives of the University of Cambridge.
- The MASTER OF GONVILLE AND CAIUS COLLEGE, Cambridge.
- Mr. A. E. SHIPLEY, Christ's College, Cambridge.

Sir CHARLES J. LYALL, K.C.S.I., C.I.E.

Mr. T. W. HOLDERNESS, C.S.I.

Sir DIETRICH BRANDIS, K.C.I.E., Ph.D., F.R.S., formerly Inspector-General of Forests in India.

Dr. W. SCHLICH, C.I.E., Ph.D., F.R.S., Principal Professor of Forestry at the R.I.E. College.

Mr. W. R. FISHER, Assistant Professor of Forestry at the R.I.E. College.

The CHAIRMAN.—Gentlemen, it is, I need hardly say, our duty in the India Office to see that any scheme which is agreed to is one which will give us the best trained Probationers to send out to India in the Forest Service. In this matter we are dealing with the revenues of India; we are, to a great extent, trustees for the management of those revenues; and we have to secure that our funds shall be applied to the purposes of India, although our sympathies are entirely with the creation of a still greater School of Forestry.

I do not know whether the members of the Conference have got the scheme that is proposed, but which has not yet been adopted.

The MASTER OF CAIUS COLLEGE, Cambridge.—No, we are quite ignorant of it, unfortunately.

Sir CHARLES LYALL.—That is the revise of the scheme that was sent to Cambridge in October, I think, or November. The essential point about the scheme is the same in both.

The CHAIRMAN.—I may mention that this scheme has been put forward by the Department of the India Office, but has not yet been sanctioned; it has not yet been before the Council.

The MASTER OF CAIUS COLLEGE.—Would the Chairman say precisely why we are called together?

The CHAIRMAN.—I think we are called together on account of a letter which we received from Cambridge.

The MASTER OF CAIUS COLLEGE.—Might we have that read in full?

The CHAIRMAN.—Yes.

"The Master's Lodge, Trinity Hall,
"Cambridge, January 25, 1905.

"MY DEAR SIR,

"I REPORTED to the Council of the Senate the substance of what was said on the part of the University and of the India Office on January 19th, when you were good enough to receive a deputation on the subject of the proposed transference of the Coopers Hill School of Forestry to Oxford. You will doubtless remember that, after explaining the attitude of this University in the matter, the deputation pressed very strongly two requests which they thought the University entitled to make. These were (1) that no final decision shall be taken at present; (2) that you would invite a conference to be attended by delegates, mainly scientific, from the Universities of Oxford and Cambridge and the scientific or other advisers of the India Office, with the view of framing a scheme which might be acceptable to all three bodies named.

"These requests are in accordance with the weighty expression of opinion contained in the letter from the Duke of Devonshire, our Chancellor, which I read to you on the occasion of your receiving our deputation. The Chancellor wrote, 'In my view it (the question) touches nearly not only the interests of our University but also the efficiency of the public service.'

"I am now in a position to inform you that, in the event of your acceding to these requests, the Council of the Senate are prepared at once to make the necessary appointment of representatives to attend a conference.

"It will be of great convenience to the Council if they can hear from you on this matter as soon as possible. Their next meeting is on Monday, January 30th.

"I am, my dear Sir,
"Your very faithfully,
"EDWARD A. BECK,
"Vice-Chancellor.

"To the Secretary of State for India."

That, I understand, was the immediate cause of our meeting here to-day.

The MASTER OF CAIUS COLLEGE.—And that is the subject of discussion, I suppose?

The CHAIRMAN.—Yes, I think so.

The MASTER OF CAIUS COLLEGE.—That is, the possibility of framing a scheme which will be satisfactory to all the three bodies named?

The CHAIRMAN.—Yes.

The MASTER OF CAIUS COLLEGE.—Might it not clear the way if we said at once that the first regulation could in no sense be regarded as satisfactory to the University of Cambridge?

The CHAIRMAN.—I suppose your objection there has reference to the examination by the authorities of the University of Oxford, which is mentioned in the last two lines?

The MASTER OF CAIUS COLLEGE.—What we contend, and what we set forth very strongly, is that this scheme absolutely excludes any Cambridge-trained men at all. When we take into account the large number of natural science men who pass through Cambridge every year—last year

nearly 160 got natural science honours—we think that that is a very unfair regulation and very bad for the public service. That is an outline of our objection.

The PRESIDENT OF MAGDALEN COLLEGE, Oxford.—When the Master says that it excludes Cambridge-trained men, he means, I suppose, men who have gone through their complete course of training at Cambridge; because, of course, no one would know better than the Master that they could pass their Little Go, which is equivalent to our Responsions, and they could spend their first year at Cambridge and could qualify for the entrance examination at Cambridge probably quite as well as at Oxford.

Mr. SHIPLEY.—I have consulted a good many people about it, and I find exactly the same feeling in Edinburgh. They say that their students would not leave the University at the end of the first year, just at the time when they are keenest, and go to another University, even for these appointments. I think that is the universal opinion at Cambridge. I do not think Oxford men, if this plan were reversed, would leave Oxford at the end of their first year and come over to Cambridge. Really, our objection is that this is the first time, as far as I know, that any public service has been handed over practically completely to one University, and we do press that very strongly. I know something about Oxford, for I have the honour to be examiner there at the present time. I know a number of men are prepared to take honours in science. We had 129 last year in the first part of the Tripos and 29 in the second part; and many of these men would be very keen. Only the day before yesterday one man came up before the Professor of Botany, knowing nothing about this discussion, and asked him how he could get into the Forestry Service. Then it is very strongly felt that the men should be selected not by a very preliminary examination such as is suggested here, but at the end of the time; and it is also very strongly felt that all those men should have a degree. The value of a degree to a man who has gone to India from Cambridge or Oxford is very considerable—far greater than it is in England. The importance attached to a degree there, by natives especially, is very considerable. We think we could arrange such a scheme in consultation with Oxford as would allow our men to have a chance of going in, instead of your getting men without degrees.

The CHAIRMAN.—As I understand, Master, with regard to Regulation 1, your objection only goes to the competitive examination being held by the University of Oxford.

The MASTER OF CAIUS COLLEGE.—And the necessary transference of Cambridge men to Oxford.

The CHAIRMAN.—That would arise on the other regulations. This is your first objection, is it not?

The MASTER OF CAIUS COLLEGE.—Yes.

The CHAIRMAN.—What would you propose instead of the examination being conducted by the authorities of the University of Oxford?

The MASTER OF CAIUS COLLEGE.—An examination by the Civil Service Commissioners. What I object to is the transference of Cambridge men in the middle of their course to another University. I should like to say, in supplement to what Mr. Shipley has just said, that it may be possible to argue that Cambridge men would go; but the universal feeling is that they would not go, and that there would be no inducement to send them at all on the part of their advisers. The question of Indian Forestry would not come forward as a possible career for Cambridge men at all. It is very difficult to put forward arguments which can prove that case, but I do maintain that we are the people who are best qualified to judge upon that probability.

The CHAIRMAN.—Of course you must be as far as Cambridge men are concerned.

The MASTER OF CAIUS COLLEGE.—That being so, we say it would be doing a great injustice to the University of Cambridge.

Dr. SCHLICH.—Do you expect that the Government of India should pay for preventing that injustice to the University of Cambridge? Do you not think the Government of India has to concern itself first with its own interest and to make such arrangement as is most in accordance with its requirements, without regard to whether four or five men go to Cambridge or not? Why should the Government of India be called upon here to go into extra expenditure because there is a certain rivalry, or whatever you may call it, between the two Universities? And there will not only be two, there will be half a dozen; others will come forward; Edinburgh is already in the field, probably Dublin will come, and the University of Wales will come, and there will be no end to it.

The CHAIRMAN.—That will arise on the question of the practical difficulty of having the school at more than one particular place.

Dr. SCHLICH.—You can only have the school at one particular place.

The CHAIRMAN.—I understand the only objection to Regulation 1 is on behalf of Cambridge, and the objection is to the examination according to this proposed regulation being held by the authorities of the University of Oxford. You say it should be held by the Civil Service Commissioners.

The MASTER OF CAIUS COLLEGE.—Yes. I should also like to say that I do not admit Dr. Schlich's contention, which he has made just now.

The CHAIRMAN.—I think we can more conveniently discuss that on the practical question when we come to it.

Mr. HOLDERNESS.—Could this objection be obviated entirely if the examination were transferred from Oxford to the Civil Service Commissioners, the general scheme of examination being the same?

The CHAIRMAN.—The Master's present objection is on Regulation 1, and, so far as I understand, that is the only objection to it.

Mr. SHIPLEY.—It is rather difficult to say that, when we have only just had the paper put into our hands. I hope it will not be taken that because we do not make an objection we have none.

The CHAIRMAN.—No.

The PRESIDENT OF MAGDALEN COLLEGE.—I understand the Master is going to object to a great deal, and perhaps to the spirit of the whole. At present I think you are confining us to Regulation 1, and to the particular point whether the examination is to be conducted by the authorities of the University of Oxford or by some other body.

The CHAIRMAN.—So far as I understand, that is so. I do not mind much where we begin, but the Master began by objecting to Regulation 1, and therefore I thought I would understand what his objection to that regulation was.

On Regulation 2 (Admission to Examination) there cannot be any objection, one way or the other, of course.

Have you any objection to Regulation 3 (Age Limits)?

The MASTER OF CAIUS COLLEGE.—I think it would be better to put them a little bit higher, but still I can quite see that whatever could be worked by Oxford could be worked by Cambridge, and I would not raise any objection on that.

The CHAIRMAN.—You see we want to get the Forest Officers out before they are too old.

The MASTER OF CAIUS COLLEGE.—We had practically the same difficulty in the case of the military candidates, and we have accepted the condition of a certain limit of age, though we do not think it is the best.

The CHAIRMAN.—Regulation 4 (Nationality, &c.). Of course, that is really for the Secretary of State.

Now we come to Regulation 5 (Qualifying Examinations). Now the main question arises.

The MASTER OF CAIUS COLLEGE.—I do not think that is serious. The Regulation says the candidate must have passed "either the examination of the University of Oxford known as Responsions or some examination which is accepted by the University as equivalent thereto." That is practically the Cambridge Previous Examination. You might just as well put in there, for instance, "the Previous Examination in the University of Cambridge"; but there is no serious objection to Regulation 5.

The CHAIRMAN.—Then 6 (Subjects of Examination).

Mr. SHIPLEY.—We feel very strongly that the men ought to be chosen at the end of their University career and not at the beginning. You get a much better qualified man now for the India Civil Service and for Engineering and the other Departments of the Government Service because he is taken from the final examination and not from the preliminary examination. This preliminary examination which is suggested is a very simple one, and it seems to me hardly wise to choose men for a service on such a very elementary examination as this. We should urge most strongly that they should be chosen at the end of their career, when they are older men and know more about it, and when they are not mere boys who have just passed a very preliminary examination in science, but have been able to get a degree.

Mr. HOLDERNESS.—Does that not affect the age limit?

Mr. SHIPLEY.—Possibly at the upper end, but I think our men as a rule come up at 18 and leave at 21. They take their final examination in June. We have an arrangement now in Cambridge by which they can come up and take the honours examination in two years, and have the last year with absolutely nothing to do but pure technical forestry.

The CHAIRMAN.—When you suggest that the selection examination should be at the end of the course, are you including the practical instruction?

Mr. SHIPLEY.—I have put that in the third year, if necessary.

The CHAIRMAN.—Would you fix the competitive examination after the men had completed their course in Germany, for instance?

The MASTER OF CAIUS COLLEGE.—No. That is the technical course.

Mr. SHIPLEY.—What they could do in Cambridge is that they could at the end of their first year take the first part of the diploma of agriculture. That is a special examination, and enables them to get the B.A. Then in the second year they could take the second part of the Natural Science Tripos, and by keeping three more terms with no more examination they could proceed to the B.A. Then they could have the last year, and perhaps part of the next year, if we could afford them a fourth year, doing nothing but pure forestry, and in the meantime they could be doing agriculture and all the allied subjects mentioned in the documents.

Dr. SCHLICH.—Did I understand you to speak of a fourth year?

Mr. SHIPLEY.—If there is a fourth, but at any rate they could have the whole of the third year for this.

Sir CHARLES LYALL.—The third year must be spent at Cambridge?

Mr. SHIPLEY.—Yes, because of keeping terms, but they would have no other examination for their degree. If they have taken the first part of the general diploma in agriculture and the first part of natural science, they can proceed to their degree by keeping terms only; so the entire third year would be available for pure forestry.

The CHAIRMAN.—Would it be at the end of the third year that you would suggest the competitive examination ought to be held?

Mr. SHIPLEY.—I think it might be taken better at the end of the second year, when they have completed their final B.A. examination. It might be part of the Tripos. The Tripos is already used in some such way for giving certain prizes. The examiners make no difficulty about giving outside people information as to the marks and telling them this man or that man has won the prize; and they might be willing to do it for such a purpose as this.

The MASTER OF CAIUS COLLEGE.—The limit of age would settle that question. A man would say, "If I put off my Tripos to the end of the third year and then go in for the competitive examination, I may be too old." There would be every inducement to take honours at the end of the second year. and to keep the third year for the technical instruction.

The CHAIRMAN.—It would depend on the age, then.

The PRESIDENT OF MAGDALEN COLLEGE.—Do I understand that there is to be no further examination for the degree at Cambridge or Oxford?

The MASTER OF CAIUS COLLEGE.—Not if we should take that course. The final examination would not be an honours degree.

The PRESIDENT OF MAGDALEN COLLEGE.—It would be a pass degree?

The MASTER OF CAIUS COLLEGE.—Yes. I do not quite know what it would be in Oxford; I suppose men at Oxford take honours in moderations and then qualify by some other way in order to get a degree at the end of the third year. It will be something like that.

The PRESIDENT OF MAGDALEN COLLEGE.—We have not anything exactly corresponding to what you have at Cambridge.

Mr. SHIPLEY.—It is simply due to the fact that the University recognises the first part of the diploma of agriculture as special. If a man in Cambridge takes the Tripos in the second year, he has then to pass the special, and, if he has passed the special before he has taken the Tripos, it counts. It is an anomalous state of things, but it seems to me to work in very well with this scheme.

The CHAIRMAN.—If it were decided by the Secretary of State in Council that a competitive examination should be held as suggested at the commencement, have you any objection to urge against the four subjects mentioned in Regulation 6?

The MASTER OF CAIUS COLLEGE.—No. (To Mr. Shipley)—Except against the standard, I think you say.

Mr. SHIPLEY.—I think the examination is a very easy one.

The CHAIRMAN.—Do you think it is not sufficient?

Mr. SHIPLEY.—I do not think it is sufficiently good for that.

The PRESIDENT OF MAGDALEN COLLEGE.—Supposing a man passes the Tripos in the second year, would you take the competitive examination then?

Mr. SHIPLEY.—Yes.

The PRESIDENT OF MAGDALEN COLLEGE.—That would be before he had begun his forestry.

Mr. SHIPLEY.—Then of course he would be provisionally allocated for that, but if his forestry turned out very badly he could stand down; he would be liable to be sent away if he did not reach a certain standard. Of course these details are very difficult for us to go into now, because we have not had the schemes very much before us. I have no doubt that if we could agree upon some broad principle, we could manage the details at Cambridge.

The MASTER OF CAIUS COLLEGE.—If I may say so, another grievance that we have is that we are, in the matter of deliberation, at least five

months behind Oxford, because we have not had the opportunity they have had of considering this. We have been fairly busy since the question has been brought before us.

Sir CHARLES LYALL.—The first form of the scheme was sent to you at the same time as to Oxford. The interval which necessarily occurred was due to the vacation. The first letter was sent to Oxford in August. That letter was not answered by Oxford until October, and until the Oxford answer was received it was impossible to frame any scheme of this sort, but when that scheme was first framed it was sent simultaneously to Cambridge and to Oxford.

The MASTER OF CAIUS COLLEGE.—If I may speak frankly I think we might have had it at the same time for consideration that Oxford had it. The date on which the letter was sent to Oxford was August 19th, and the date on which our scheme was sent to the India Office was July 9th. The long vacation is exactly the time when the experts could have been putting their heads together to see what could be done and formulating their criticisms.

Sir CHARLES LYALL.—That is an unforunate thing, no doubt; but the first form of the scheme was put before the University of Oxford and the University of Cambridge at precisely the same time.

The MASTER OF CAIUS COLLEGE.—No, Sir, it was not. We did not get it until we wrote for it.

The PRESIDENT OF MAGDALEN COLLEGE.—Was not the Cambridge scheme sent up to the India Office before the Oxford scheme?

The MASTER OF CAIUS COLLEGE.—That was not the scheme.

The PRESIDENT OF MAGDALEN COLLEGE.—I understood just now that you had sent it up.

The MASTER OF CAIUS COLLEGE.—We sent up a scheme but that was a scheme which was professedly based upon a report in a Blue Book, which was not the Coopers Hill Blue Book. I may say it was drawn up, as far as we could do it, without the expert advice of Dr. Schlich or a distinguished scholar of that kind, but it was drawn up on the evidence given by Dr. Schlich and on his suggestion.

The PRESIDENT OF MAGDALEN COLLEGE.—And so far you were ahead of us.

Mr. SHIPLEY.—One moment—what we sent up was not a scheme for Indian Forestry at all; it was a scheme for teaching forestry at large, and was sent up in response to the India Office.

The PRESIDENT OF MAGDALEN COLLEGE.—I only want to clear up this little difference, as I am sure we do not want any misunderstanding. As a matter of fact you were ahead of us; the letter was sent to us in August, and could not be replied to until the University met again. Then the scheme that we have here was not sent by us, but was sent by the India Office to us, and simultaneously to you, and in the letter sent to us we were informed that it was sent to both. So I do not think there is really anything in that.

The CHAIRMAN.—Now to return to Regulation 6. Assuming that it is ultimately decided—I cannot say how it will be decided—that the competitive examination should take place at the beginning; do you suggest that it ought to be stiffened?

Mr. SHIPLEY.—I do not think it is a high enough standard to select men upon for any public service.

Mr. HOLDERNESS.—As I understand, you rather recommend an examination by the Civil Service Commissioners, with the age so arranged as to get men after they have finished their general education at the University; and that that examination should be settled first on the lines of a general education of a scientific kind, and on as high a standard as is compatible with getting the candidates at that time.

Mr. SHIPLEY.—I think you would get a better service in that way.

Mr. HOLDERNESS.—After that there would be such special training in this country, arranged by the India Office as it thinks best, and in such place as it thinks best.

Mr. SHIPLEY.—Or on the Continent.

Mr. HOLDERNESS.—It would not matter as far as the University of Cambridge was concerned where the school was located, or how the further training was done, provided the open competitive examination suited the Cambridge men as well as the Oxford men, and was at a suitable time in the career of a man at the University.

Mr. SHIPLEY.—We could not send our men away at the end of their second year to another University. I think it is an essential part of our scheme that there should be some forestry teaching in Cambridge for them to do in their third year, when they have nothing else to do.

The CHAIRMAN.—How could that be provided?

Mr. SHIPLEY.—I should like first of all to ask how much the India Office are prepared to expend on Oxford? I do not know that. If you could tell us that, I should say halve it.

Dr. SCHLICH.—I should say that a much more appropriate question is —How much is Combridge going to spend if we fall in with their views? Why the India Office should pay for it I do not see at all.

Mr. SHIPLEY.—Then why should they pay for it at Oxford?

Dr. SCHLICH.—If we pay Cambridge, we should have to do it at half a dozen Universities.

Mr. SHIPLEY.—I think you can do it as Mr. Brodrick suggested last Thursday. You can very easily draw a line, and he saw a line that could easily be drawn between Oxford and Cambridge and the others. He said that we might make it a rule that men must come from a residential University. Dr. Schlich himself stated in evidence that if we had a Professor of Forestry at Cambridge, then we have all the appliances there for starting a school of forestry.

Dr. SCHLICH.—Yes, but please excuse me. That was with reference to forestry in this country, not in India. You have quite mistaken that. If I had given evidence with regard to the Government of India, I should have given quite different evidence.

The MASTER OF CAIUS COLLEGE.—May I draw attention to some of the evidence which Dr. Schlich gave as regards Coopers Hill? I should like to quote his words, if you will allow me. In reply to question No. 262 in the Blue Book containing the minutes of evidence taken before the Committee of Enquiry into the College at Coopers Hill (Command Paper, No. 2056 of 1904), he said: "I am inclined to think, although I may be wrong in that, that if, for instance, a contribution equal to the actual pay of a professor were made, probably the University of Cambridge would undertake the rest. At any rate, I have reason to believe that they would seriously consider the matter, because I once had a conversation with the Vice-Chancellor upon it." Then in another answer he implied that a professor would do all that was required.

Dr. SCHLICH.—For English forestry.

Sir DIETRICH BRANDIS.—Exactly so; but what we have before us is a definite practical question. Ten men are wanted every year for the Forest Department in India, and the India Office cannot possibly be expected to pay for two staffs of forestry professors—one at Oxford and one at Cambridge. The question is how to train these ten men as efficiently as possible, and that can only be done at one place without great expense; you cannot divide it between two. That seems to me the main question, although there are a great many other questions. I should like to know whether those who

would pass the examination at the end of their second year would be sufficiently numerous to afford a field for selection. There would be, perhaps, ten men or twelve men only, and so you would not have a sufficient field for selection. Whereas if you selected them at the commencement, as matters are at present, you would get a fair set of men. That is certainly not a perfect plan, as they have found in Germany, where foresters are wanted all over the country. It is an artificial arrangement. But if you select the probationers at the beginning, then you will have a large number of candidates to select from, and if you add to the competition a physical test, which has always been and which must be added, then according to the experience of the last 20 years, indeed, according to experience in France and in Germany ever since 1866, with this competitive entrance examination combined with the physical test, and, of course, a medical examination, you will find that that will give you a very fair set of men. It is much better to stick to that instead of adopting this new scheme which is proposed by the University of Cambridge, of selecting them at the end of their second year when they have passed the Natural Science Tripos. It seems to me that in a practical question like this it is much better for India to follow the experience which has been gained ever since 1866—which is a good long time ago, of course—and to go on in the same lines. Eventually, doubtless, a great demand for foresters will come. People must eventually in Canada come to the conclusion that it will not do always to cut down their firs and burn them—they must come to the conclusion that they want foresters. But that is a thing of the future and that is not the question at present. At present the question is simply this—How can these ten men be most efficiently selected and trained? There, I think, the experience which we have had ever since 1866 ought to be utilised, and we ought not all at once to launch out into a new scheme such as that which the University of Cambridge proposes. That one Professor of Forestry could do the whole thing for the men to be sent out to India is out of the question. We have three Forest Schools in Germany attached to the Universities, and in every one of these Universities there are three or four Professors of Forestry—and purely forestry. The evidence which has been given by our excellent friend, Professor Marshall Ward, whom I admire immensely —he was the representative of Cambridge when he gave evidence—shows that Cambridge does not realise that forestry in itself is a very difficult matter, and a very large business.

Mr. Shipley.—I should like to point out, as regards Professor Marshall Ward, that if forestry came to Cambridge it would be in no sense of the word connected with him. Each Professor and each Department is connected with a special Board, and if the forestry came to Cambridge the forestry would almost certainly—I think I may say quite certainly—be connected with the Board of Agriculture, which is under Professor Middleton.

The Chairman.—I should like to clear the ground, first of all, by ascertaining what objections there are to the forestry course, apart from the questions where the examinations are to be held and where the first course is to be carried out. Are there any serious objections to the course that has been suggested? That comes first, and then we can consider the question whether the course of instruction could be carried out at two Universities or at one. I should therefore like to know first of all if there are any objections to our scheme as to the course of study, beginning with the subjects on which we propose that the probationers should be examined and going on with the subjects in which we propose that they should be instructed; and also considering the necessity of there being practical demonstrations by a lecturer who has had Indian experience. I think we ought to discuss that first, because unless we come to some arrangement about that we are really not in a position to consider the other.

Mr. Shipley.—If we make the selection of probationers at the beginning, I think (1), (2), (3) and (4) would probably be the best subjects they can have; but we think it would be better to select them later on. The real objection to the course at Oxford to my mind is that, as I understand,

Oxford is not prepared to grant a degree in forestry, and therefore the men after they have been selected here would spend two more years—

The CHAIRMAN.—I would like to bring everyone back to the point which is now before us. That would come under the second branch. As I understand, the subjects (1) to (4) are considered to be subjects which if the competitive examination is to be held at the beginning of the young man's course, are the proper subjects in which the examination should be held.

Professor MIERS.—I think all scientists would probably confess that these should be the obvious subjects.

Mr. SHIPLEY.—Would you not put in mathematics as well?

Professor MIERS.—I think "mechanics and physics" is probably meant to include so much mathematics as is required.

Mr. HOLDERNESS.—You would find mathematics would come in there.

Professor MIERS.—I think that is what was meant there.

Sir CHARLES LYALL.—This is merely the outer skin of the rules. Appendix I. discloses the actual examination.

Mr. SHIPLEY.—I would like to emphasise again that it is an extremely elementary examination.

Sir CHARLES LYALL.—But not more elementary than the examination passed at present by the candidates for the Coopers Hill School.

Mr. SHIPLEY.—I should think not.

The CHAIRMAN.—Do you object to this—"The examination in these subjects will be the preliminary examination in the Honours School of Natural Science at Oxford"?

The MASTER OF CAIUS COLLEGE.—Yes, I should.

The CHAIRMAN.—What would you substitute for that, supposing it were to be decided that the School of Forestry should be transferred from Coopers Hill to Oxford?

The MASTER OF CAIUS COLLEGE.—Then I think we should say that that is such a fault in the whole scheme that we could not go very much farther. In one sense we could not go very much farther; in another we should.

The CHAIRMAN.—If it were decided—mind you, I am not saying what will be decided; I do not know yet—that the School of Forestry at Coopers Hill were practically to be transferred to Oxford, would it be an unreasonable thing to say the examination should be the preliminary examination in the Honours School of Natural Science at Oxford?

Mr. SHIPLEY.—I think you would get better candidates and more of them at the Civil Service examination. In Cambridge we could hardly leave it at that; we should have to take what steps are open to us to take.

The CHAIRMAN.—I do not think any question will arise on Regulation 7 (Fee, &c.)—I mean apart from the reference to Oxford.

Mr. SHIPLEY.—No, nor on the medical examination (Regulation 8).

The CHAIRMAN.—I suppose it will be the same with the period of probation (Regulation 9), wherever it was.

Mr. SHIPLEY.—On that point I do not know whether I am in order, but I should like to point out again that these men would go out from Oxford having spent their two or three years without a degree, and that that will stand very much against them. Whenever a man leaves a University having been in residence the proper time but not having had a degree, then wherever he goes in after life he has always got to explain that away.

Sir CHARLES LYALL.—May I point to the end of the Regulation 13?

Mr. SHIPLEY.—Yes, but a good many of them will not take that.

Professor MIERS.—Our feeling was that any man who took up such a subject as geology would take a degree in geology, and that a chemist would take a degree in chemistry. The syllabus contains this because a man might naturally be tempted to take an honours degree, though he would not necessarily take an honours degree.

Dr. SCHLICH.—Doctor Vines distinctly told me that the botany which he could teach them would be quite sufficient for a man to take his degree in botany at Oxford.

The CHAIRMAN.—Where is the degree in botany—at Oxford or Cambridge?

Dr. SCHLICH.—Oxford. Judging from our syllabus he said what we expect to teach would be quite sufficient for a man to take his degree with botany as the final subject; so there would be no difficulty. Moreover, I do not look at the degree as being of such importance, because I am perfectly convinced that just as Cambridge has established a degree in agriculture, so if we do go to Oxford and forestry becomes a little more known, the authorities of the University of Oxford will in another year or two give a degree.

Mr. SHIPLEY.—Oxford has been very slow in advancing.

Dr. SCHLICH.—Yes, but things are changing now, are they not?

The CHAIRMAN.—Apart from this question of degree, as to which I think there is something in what has been said, do you object to the three years' probation, wherever it is?

Mr. SHIPLEY.—No; I think we could agree that about three years was the right time.

The CHAIRMAN.—And wherever the probationers went for two years they would have to undergo a special course of study as members of the University, whichever it was?

Mr. SHIPLEY.—Yes.

The PRESIDENT OF MAGDALEN COLLEGE.—Does that mean that after their Tripos they stay on two years more at Cambridge?

Mr. SHIPLEY.—No; in our case if they took their Tripos it would be in their second year.

The PRESIDENT OF MAGDALEN COLLEGE.—But they would have to spend two more years?

Mr. SHIPLEY.—No. They might be one year possibly abroad.

The PRESIDENT OF MAGDALEN COLLEGE.—I understand there are to be two years of special training—one of those would be the year which coincides with the preparation in special forestry and the other would be the Continental training.

Mr. SHIPLEY.—Yes.

The PRESIDENT OF MAGDALEN COLLEGE.—That would be two years added after the two years before the Tripos, so that it would be four years altogether.

The MASTER OF CAIUS COLLEGE.—It would be no more than a large number of people do.

Mr. SHIPLEY.—It would be four years probably, but of course these details must be looked into again.

The PRESIDENT OF MAGDALEN COLLEGE.—I thought you said three years without realising that it really means four. I ought to say that we have not had the opportunity of considering the Cambridge suggestion, of course. It is just as difficult for us to see how it is to work at Cambridge

as it is for you to see how it is to work at Oxford. We are quite at one as to that; we are really on a par in the matter.

The CHAIRMAN.—There does not appear to be any serious objection to the three years' probation; that is really what Regulation 9 deals with.

Sir CHARLES LYALL.—Or to the one year on the Continent.

Mr. SHIPLEY.—If they do that they would not get a degree, because they must keep their terms.

Dr. SCHLICH.—If the Government falls in with the Cambridge scheme it would be five years.

Mr. SHIPLEY.—I do not think so.

Dr. SCHLICH.—Yes, unless we transfer the whole thing to Cambridge.

Mr. SHIPLEY.—Let it be just as they do at Coopers Hill, where they go abroad for three or four months.

Dr. SCHLICH.—That would, on the other hand, exclude Oxford.

Mr. SHIPLEY.—We do not want that.

The MASTER OF CAIUS COLLEGE.—We have no desire to do that at all.

The CHAIRMAN.—It is quite understood that that is your position.

Dr. SCHLICH.—But if the Government fall in with your scheme it would practically exclude Oxford.

Mr. SHIPLEY.—I think it might in the long run, and I hope it would, because I think our men might perhaps beat the Oxford men.

Dr. SCHLICH.—You are perfectly aware that I first of all thought of Cambridge, and that I decided to suggest to the Secretary of State to go to Oxford simply on practical grounds—nothing more.

The CHAIRMAN.—We are coming back to the second question; I want to get through this first. I think we may assume that Regulation 9 has no serious objection to it, except, of course, the reference to the University of Oxford.

The MASTER OF CAIUS COLLEGE.—Except that I think it is arguable in regard to many of these schemes that the stiffer the examination before the period of probation begins, the less the period of probation might be. I mention that as a question of principle.

The CHAIRMAN.—That would be assuming, of course, that the examination was held before the commencement.

Mr. HOLDERNESS.—The suggestion is that the examination should be held at the completion of the man's ordinary University education in natural science, and that it should be an open competitive examination. The man would then start with certain specialised parts of knowledge.

The MASTER OF CAIUS COLLEGE.—He would start as a better trained man, and would beat the others in time.

Mr. HOLDERNESS.—Then the question is how long probation will be necessary to fit him for the Indian Forest Service.

The MASTER OF CAIUS COLLEGE.—That is the question.

The CHAIRMAN.—That is on the assumption that the competitive examination is held at the end of the second year.

Mr. HOLDERNESS.—I suppose so—or at the end of his third year.

The CHAIRMAN.—Do you say at the end of the second year or at the end of the third year?

Mr. SHIPLEY.—If the competitive examination were on the Tripos, we should say that every man should take it in the second year, so as to leave

the third year completely free for nothing but forestry, agriculture, and so on.

Dr. SCHLICH.—Supposing we got a man well up in mechanics and physics, chemistry, zoology, or geology and botany, there would still be quite a number of things for him to be taught. If the organic chemistry is done before the probationers are chosen, we should still have forest entomology; we should have the application of botanical questions to forestry; we should have geometrical drawing; we should have surveying; we should have some elementary engineering; we should have some book-keeping, and we should have the whole of the forestry. You will want some time for that. You cannot do all that in six months, and I doubt whether it would be satisfactory if you gave up the whole year to it and nothing else were done in that year.

Mr. SHIPLEY.—We could give you one whole year. In fact, it would be really with us fifteen months, because you could include one extra long.

Dr. SCHLICH.—You do not get over the point that if we do that at Cambridge we must do it at Oxford, and, perhaps, two or three other Universities.

The CHAIRMAN.—That is coming back to the main point.

Dr. SCHLICH.—That is really the main question of the scheme. It is only on the supposition that we have to go to one particular place.

Mr. SHIPLEY.—When we get to that question I have got something I want to say.

The CHAIRMAN.—Now we get Regulation 10 (Charges). I do not think anything arises on that.

Now Regulation 11 (Course of Study).

Mr. SHIPLEY.—On that I should like to point out that we practically accept forestry, but we should probably want some lecturer in forest botany. We practically have all those subjects being taught as going concerns in Cambridge at the present time, and there would be no difficulty at all in bringing those classes into line and modifying slightly with special reference to India.

The CHAIRMAN.—Do you think these eight subjects are sufficient for the study of the probationers?

Mr. SHIPLEY.—I should have thought they were. Of course, a good many foresters, and very able ones, have been trained in France, and I do not know whether it would be better to make No. (6) " German or French." The Nancy School is a very distinguished one.

The CHAIRMAN.—German is put in for practical purposes, because a year is to be spent in Germany.

Mr. SHIPLEY.—It used to be spent in France; at least, some of the foresters were trained in France.

Mr. FISHER.—The work in Germany is much more practical. I go to France very often, and I know that the French people merely mark the trees for felling, but do no practical work.

Mr. SHIPLEY.—It is difficult to know, but I have been told that in some respects the Nancy School is very good.

Mr. FISHER.—I go to France every year, and the real point is that the French forest officer only marks the trees, and nearly all the work is done by a contractor, whereas in Germany the work is done by the Forest Department itself, and so it is better training for a man.

The CHAIRMAN.—In your view, in these first two years before a man goes up for his competitive examination, would you give any specialized instruction in forestry?

Mr. SHIPLEY.—I should say that if he was one of my pupils, I should

recommend him to take perhaps geology, chemistry, and botany. He would then have a thorough grounding in the scientific side of it, and would be able to pick up the forestry part so much more quickly.

Sir DIETRICH BRANDIS.—Forestry teaching must go *pari passu* with natural science teaching. It must begin from the beginning, and it must go on, as I say, *pari passu*. To commence the forestry teaching in one of the later years, as is proposed in this Cambridge plan, is impracticable. That is all I can say. It is not practicable; it is not reasonable.

The CHAIRMAN.—Do you mean that it should go on during the first two years, or only one year?

Sir DIETRICH BRANDIS.—It should go on the whole of the three years. The probationers will not be able to appreciate those branches of natural science which they ought to know unless they have some idea of what they are to be applied to.

The CHAIRMAN.—Cannot you have demonstrations?

Sir DIETRICH BRANDIS.—The probationers must know what the aims and objects of a forester are, and how he endeavours to accomplish them. Then they are capable of appreciating those branches of natural science which are given to them. All I can say is, why in the world not learn from experience? We have the old experience from 1866—experience which has been gained in every country where there is proper forestry teaching. We should not dream in our German forest schools of feeding them on botany and on zoology and on geology for two years, and then just giving them an encyclopædic idea of forestry. Forestry is a very difficult business. These things must be digested. In the first year a probationer begins to learn the character of the different trees. Then he gradually learns why a forest must be managed according to a regular, well-considered plan—according to what we in English call working plans —and then he gradually learns how those working plans are made. This is one of the great blots in the Cambridge plan. The first plan which I had before me, which was in January, 1904, relegated the teaching of forestry to the long vacation. That, of course, was out of the question. Now the second plan which I have before me relegates it to the last year, and that is equally impracticable.

Mr. SHIPLEY.—I think the proposal that Sir Dietrich is referring to was that practical botany should be relegated to the long vacation—not the entire range.

The CHAIRMAN.—So that you should do practical botany in the country?

Mr. SHIPLEY.—Yes. If we are allowed to prepare a scheme, we could doubtless remove some of these objections. We have made two proposals. This was not submitted as regards the India Office scheme; it was a general scheme submitted to the Board of Agriculture.

The MASTER OF CAIUS COLLEGE.—I think the reason for sending up that scheme has been entirely misunderstood. Our attention was drawn, as stated by Mr. Shipley, to the appearance of the Coopers Hill Blue Book. We sent that first scheme based upon the Agricultural Blue Book, to show the India Office that we had been thinking of these things, and we said we were ready to give further information; but there was silence till November.

Sir CHARLES LYALL.—May I point out to you, Master, that that scheme had upon its first page a statement that a school of forestry could not be established at Cambridge?

The MASTER OF CAIUS COLLEGE.—I have explained that.

Sir CHARLES LYALL.—The explanation come on the 19th January last, but it was certainly not visible upon the face of the document.

Sir DIETRICH BRANDIS.—The paper suggests that the course of study

should extend over three University years, and that the months of July, August and September in the first and second years should be spent at a forest school. The Cambridge scheme has now been altered for the better, but still it does not yet meet the case.

Mr. SHIPLEY.—We maintain that what we meant by that statement is exactly borne out by what we have learned around this table—that our men must go abroad, and that they cannot get real training in practical forestry unless they do.

Sir DIETRICH BRANDIS.—They learn from the lectures during the first two years before they go abroad, and then they are to apply their knowledge practically in the third year.

Mr. SHIPLEY.—They can do that at Cambridge as well as at Oxford.

The CHAIRMAN.—Would you approve of a course of practical training during the first two years?

Mr. SHIPLEY.—If Dr. Schlich and Sir Dietrich Brandis tell us it is essential, of course we should.

The CHAIRMAN.—That could be carried out?

Mr. SHIPLEY.—Yes, certainly we could carry out the practical teaching of forestry during the whole time the men were at Cambridge, if we had the proper professors.

Mr. HOLDERNESS.—Would that be preceding the open competition, or after?

Mr. SHIPLEY.—That, of course, is the difficulty.

Mr. HOLDERNESS.—The point I would like to ask is this: If there were an open competitive examination held by the Civil Service Commissioners with such limits of age as would tempt men who had taken the first part of the Natural Science Tripos, and in such a place as would not prejudice Cambridge men, then would the Cambridge University admit that the Secretary of State might make whatever arrangements he thought best for the future specialized training of the selected candidates?

Mr. SHIPLEY.—I should say we should welcome that.

Mr. HOLDERNESS.—That is to say, there would be no objection to the Secretary of State putting the specialized school either at Oxford or at Cambridge, wherever he liked, as long as there was the open door for Cambridge in the open competitive examination?

Mr. SHIPLEY.—We should prefer some different place, because wherever the school is, that would give a great advantage to the locality.

Mr. HOLDERNESS.—That would secure the open door for Cambridge.

Mr. SHIPLEY.—Not quite, because they would have to go over and study at Oxford. One sees that it would be an advantage to have the school on the spot and so Oxford would get more of the men than Cambridge.

Mr. HOLDERNESS.—The alternative seems to me to be this, though I do not think it is a practical one. First to have your open competitive examination in this way in general education, with certain obligatory subjects in natural science, in mathematics and in modern languages; after that to say that the candidates must have a special course of training in forestry and cognate subjects—that would be done by one or another of the specified Universities—and that the proper teaching and the progress of the candidates should be tested by periodical examinations; the Secretary of State for India would then give up the idea of having any staff specially located anywhere for teaching these candidates. That is the alternative.

Mr. SHIPLEY.—I suppose wherever it goes we should want some financial assistance, but the University of Cambridge is prepared to do what it can. If the Government are going to send professors to Oxford,

I really think that with one professor at Cambridge we could do all the forestry that is wanted.

Mr. HOLDERNESS.—And that would wholly meet your views, would it not?

Mr. SHIPLEY.—I think it would.

Mr. HOLDERNESS.—They would be partially met if the open competition was so fixed as to admit of Cambridge men taking a degree before they went in.

Mr. SHIPLEY.—They would be partly met in that way.

Mr. HOLDERNESS.—Would you still have a grievance?

Mr. SHIPLEY.—I am sorry to say that I am afraid we should have a grievance, but still that is very much better from our point of view than the present scheme.

The CHAIRMAN.—But the final course would not be at Cambridge.

Mr. HOLDERNESS.—Still the open door would be saved to Cambridge.

Dr. SCHLICH.—Did I not get it from yourself that it means five years? It must mean five years, and you cannot do it in less. Are parents prepared for that?

Mr. SHIPLEY.—I do not know whether it is in order just now, but I would like you to know how we are as regards woods at Cambridge.

The CHAIRMAN.—We will come to that in a moment; we are very close to it.

The MASTER OF CAIUS COLLEGE.—I should like to say, with reference to the question of periodical examinations which has just been raised, that the question has been considered as to how far any University or body might be allowed to work out its own salvation, providing that it came up to the standard in the end or at certain periods. We have had a considerable discussion in the matter of preparation for the Army, and the War Office have practically conceded our original view, that they may put any standard they like for our people to be tested on, and if we do not work up to it that is our own account. I think some principle of that kind might be adopted here.

The CHAIRMAN.—Do you mean if you had Professors of Forestry who had local training and local knowledge of India?

Mr. SHIPLEY.—I suppose if we had to establish a professorship we should endeavour to get someone who had been in the Indian Forest Service.

The MASTER OF CAIUS COLLEGE.—From a University point of view, and from a national point of view, you cannot help looking forward to the possible great increase of need for forestry. That appears to us very clearly from a great variety of statements in the Blue Books, and we say that any one University starting this at the public expense would have an enormous advantage with regard to developments in the future, and that would help it to become one of the foremost Natural Science Universities in the community.

Dr. SCHLICH.—We must not forget one point, and that is that if the selection is made at the end of their studies, what are the men going to do who do not get appointments? What will be the immediate result?—that the competition will be exceedingly limited. If there are ten appointments there will be perhaps 10, 11 or 12 men preparing for them, because they could not risk spending all their University career on that and then have no result. It would be absolutely nugatory.

Mr. SHIPLEY.—We have a considerable School of Agriculture now, especially for the training of land agents and also for the training, amongst others, of people who have land of their own. I feel sure that the men who fail in this would be able to pick up something there.

Dr. SCHLICH.—That is a difficulty that does exist—that there are not enough appointments open. If it was a case of engineering it would be different.

Mr. SHIPLEY.—You yourself have just been suggesting that probably in the future there will be a greater demand in Canada.

Dr. SCHLICH.—But that is for the future. A man does not want to wait for that.

Mr. SHIPLEY.—And we cannot wait.

The CHAIRMAN.—I think now we are in a position to go to the main question.

The MASTER OF CAIUS COLLEGE.—Might I make one remark on what you have said. In all these cases, the candidates as a whole at the Universities must take the risk of there being people who appear to be stranded in the end, and have to develop some other line—it does not matter what line or what department you take.

Sir DIETRICH BRANDIS.—In other branches there is a large sea they can swim in, but there is no certain employment in forestry except in India. It may come eventually, but it is not yet. You must have the open competitive examination at the beginning.

The MASTER OF CAIUS COLLEGE.—Precisely; I want the open competitive examination at the beginning, only I want all places to be treated alike.

The CHAIRMAN.—I think now we can get nearer to the great difficulty of the question before us. I suppose neither Cambridge nor Oxford would deny that for Indian purposes—that is for our purpose here in the India Office of securing men to send out to India—we must secure those men who have had, as far as possible, a practical training here in this country and a theoretical training from men who have spent their lives out in India, and who understand forestry as applied in India; and I suppose that Oxford and Cambridge would both agree that there should be professors at whatever seats of learning men were selected from, who were competent to instruct on Indian forestry and had practical experience.

The PRESIDENT OF MAGDALEN COLLEGE.—I think we should. We understand that a special training is required for that forestry.

The CHAIRMAN.—So I understand. I do not personally know anything about forestry, although I have shot through some of these forests.

The PRESIDENT OF MAGDALEN COLLEGE.—If a special training is required, then we think that special professors are required; but we take that from the experts rather than on our own knowledge.

The MASTER OF CAIUS COLLEGE.—We admit the same.

The PRESIDENT OF MAGDALEN COLLEGE.—Then may I ask one question with regard to what the Master said just now? When he proposed that persons should prepare themselves in their own way at Cambridge, he did not exclude having special professors?

The MASTER OF CAIUS COLLEGE.—No; certainly not. What I meant was that if we have a standard to work up to, even if we get no help at all other than that of working out our own salvation, we ought to be allowed to try. I do not think it is right that we should be left in this position, but still I think we ought at least to be allowed to try.

The PRESIDENT OF MAGDALEN COLLEGE.—You want to send in your own men prepared in your own way for all the examinations.

The CHAIRMAN.—Without the aid of a skilled forester who had had Indian experience?

The MASTER OF CAIUS COLLEGE.—I do not think it is at all likely we should rest content without having a skilled forester.

Mr. HOLDERNESS.—This refers to the training after the selection at the open competition, does it?

The MASTER OF MAGDALEN COLLEGE.—Partly that and partly to whatever provision might be made before. What we should conceive there probably would be is that, when this career was put before the large number of people who would come up, when their tutors were discussing what lines we should take, the energetic people who had got their minds set on this would do a considerable amount of preparation beforehand in the special subjects.

The CHAIRMAN.—What I want to arrive at is this:—Would you agree with Oxford and our skilled advisers here that for our purposes it would be necessary that the students should have been in the hands of a skilled forester who had had experience in India?

The MASTER OF CAIUS COLLEGE.—Yes, I think we should.

Mr. SHIPLEY.—Yes, we agree to that.

The CHAIRMAN.—Another question is, How could that be done?

Mr. HOLDERNESS.—Yes; that raises the question of a single forest school or of several forest schools after the open competition.

The MASTER OF CAIUS COLLEGE.—In so far as that is concerned, there would be no difficulty at all in the probationers from the two Universities, or from any other Universities, being put under one Department and under one director.

The CHAIRMAN.—Do you mean for the purpose of going abroad?

The MASTER OF CAIUS COLLEGE.—Yes.

Mr. SHIPLEY.—It would be an advantage to have that, because you want to get these men to know one another. All the men who are going from Oxford and Cambridge ought to know one another.

The CHAIRMAN.—Of course there is another point we have got to face, and that is that there would be an average of probably eight or ten men a year, or you may say twenty for each two years; if that number were divided between the two Universities would it pay?

Mr. SHIPLEY.—If we could have them alternately.

Sir DIETRICH BRANDIS.—Forest gardens must be established and museums must be established—you do not know what is required.

The CHAIRMAN.—We have to go by steps. Then there is another thing, Mr. Shipley. How could we refuse Edinburgh, for instance?

Mr. SHIPLEY.—On the ground of Mr. Brodrick's suggestion that it is a non-residential University.

The CHAIRMAN.—Take Dublin, which is my own University, although I do not speak as an advocate of Dublin. That is a residential University.

The MASTER OF CAIUS COLLEGE.—I think I should answer that we are not concerned with that question.

The CHAIRMAN.—I think it is a question we would have to face.

Dr. SCHLICH.—You would not go to each University.

The CHAIRMAN.—I do not think Edinburgh would put up with that simple answer that it was a non-residential University. I am afraid we would have the Scottish people finding fault with us. How should we shape our course if we said, Now we will divide this school between Cambridge and Oxford? How could we refuse to let Edinburgh, Dublin and Bangor come in? How could we deal with that? You might have in the course of a very few years four or five Universities working Indian Forest Schools for an average of 20 candidates to be divided amongst them in the space of every two years. Do you think the Universities would do that?

The MASTER OF CAIUS COLLEGE.—If they did not, it would be their own fault.

Sir DIETRICH BRANDIS.—Where is the staff of professors of forestry to come from? You would want at least two professors of forestry at each of these Universities.

Mr. HOLDERNESS.—I suppose the rule would be that the candidates should complete the specialised training at such University as the Secretary of State was satisfied provided the necessary teaching.

The MASTER OF CAIUS COLLEGE.—I should like to be quite clear what you mean by that.

The CHAIRMAN.—That will not be accepted as a solution, I expect, by Cambridge.

Mr. HOLDERNESS.—They could get their training at a University approved by the Secretary of State.

The MASTER OF CAIUS COLLEGE.—If we could get the forestry put on the same principles as that, we should be perfectly satisfied.

The CHAIRMAN.—Supposing we take a neutral University, Edinburgh. Should you be satisfied that the Secretary of State should say that after these men have passed their competitive examination at the end of their two years they should be transferred to Edinburgh.

Mr. SHIPLEY.—I do not think our men would go.

The CHAIRMAN.—Then it would be useless for our purposes.

Mr. SHIPLEY.—Perhaps at the end of their third year they might.

The CHAIRMAN.—Would you be satisfied if they went to Oxford or would Oxford be satisfied if they went to Cambridge? You see, it has to work both ways.

Mr. SHIPLEY.—It is a very difficult question.

The MASTER OF CAIUS COLLEGE.—We do not deny that at all. I do not know whether I may put this question. The India Office is prepared to spend a certain amount of money on this whole Department of Indian Forestry. Could the question be put to the two Universities, What would you do if you had half this sum and the other University had the other half? That is a question we have had put before us to see how far we could work it out. It seems to me that that would be a fair thing to do—allow the two Universities to say what they could do as to this.

Sir DIETRICH BRANDIS.—That is on the assumption that competent professors of forestry are to be bought in the market. They are very scarce in English-speaking countries at present.

The CHAIRMAN.—Supposing you only had one competent man in the market, how could you cut him in two? What could you do?

Mr. SHIPLEY.—I think there is more than one.

The MASTER OF CAIUS COLLEGE.—Perhaps we might go to the two distinguished experts at the table.

Sir DIETRICH BRANDIS.—One is 81, and not likely to commence a new business.

Mr. SHIPLEY.—We have a distinguished Cambridge man here, a professor of forestry.

Dr. SCHLICH.—Now, gentlemen—and I call upon Sir Charles Lyall to confirm me—I am getting rather on in years, and I shall very soon retire; I only want to see this business through, and then I shall probably go. Some one will have to take my place, but there are not so many men available, even in the India Forest Department.

Mr. FISHER.—A man does not like to give up his prospects.

The CHAIRMAN.—There would be still a feeling either at Oxford or Cambridge, I suppose, against the men who had passed their competitive examination being sent on to one particular University.

Mr. SHIPLEY.—I think there would.

Mr. HOLDERNESS.—It would not apply to what you put forward, for when an examination was held, conceivably a man, before he passed the open competitive examination, would get his degree.

Mr. SHIPLEY.—No, I do not think it would apply.

The CHAIRMAN.—I can see how it might affect men. A man probably would prefer to enter a University where he could go right through.

Mr. HOLDERNESS.—Yes, but he would finish according to this idea with his University by the time he had passed the open competition.

The CHAIRMAN.—A man who was plotting his life out to go into this line would probably prefer to go to Cambridge if he could do the whole thing right through there, or to go to Oxford if he could do the whole thing right through there.

The MASTER OF CAIUS COLLEGE.—Yes. If the candidates could go to any University they liked, but must subsequently enter Oxford, of course they would begin at Oxford.

The CHAIRMAN.—I should think that is possible.

The PRESIDENT OF MAGDALEN COLLEGE.—There is an example to the contrary. Student interpreters must enter at Cambridge, but many begin at Oxford.

The MASTER OF CAIUS COLLEGE.—I thought I made that matter clear.

The PRESIDENT OF MAGDALEN COLLEGE.—No. You say you do not know of any official arrangement; all we know is that it goes on. Only last year one man from my college was compelled to go to Cambridge.

The MASTER OF CAIUS COLLEGE.—Was that not a special temporary arrangement?

The PRESIDENT OF MAGDALEN COLLEGE.—It is so indicated. It has gone on for some years, but we were told that we were to have the next batch of student interpreters.

The MASTER OF CAIUS COLLEGE.—We cannot in reason say we must have it if you insist upon it. I do not think that is our case at all.

The CHAIRMAN.—I think we might consider it now on the assumption —I do not know whether that is decided—that we can only find one competent staff of men who have been trained in forests in India as lecturers—

Sir DIETRICH BRANDIS.—And competent to teach. That is the point, for everybody cannot teach. A man may be an excellent practical man and yet unable to teach.

The CHAIRMAN.—Then the question is whether the Forest School should be transferred to Cambridge or to Oxford—

The MASTER OF CAIUS COLLEGE.—Would you mind repeating the first part of your statement?

The CHAIRMAN.—I do not know whether the assumption is good or not, but assuming we can only obtain one staff competent to teach from their practical experience in India and their knowledge of science, what is to be said then on the question whether it is to go to Cambridge or to Oxford?

The MASTER OF CAIUS COLLEGE.—I should not like to concede the assumption at all. I should like to put it in this way: Supposing an arrangement were made by which the two Universities were subsidised, provided they could find proper equipment and proper professors, then, if any University were to fail in doing that, its teaching would stop.

Men would naturally go to the other University, and it would be strongly recommended. In time it is quite certain that both Universities would get what they wanted as regards an adequate staff. To go back to my question, which has not been answered, may we have an answer to it—What sum is the India Office prepared to spend? If they spend a certain sum, may it not be considered what the two Universities could do if the sum were divided between them?

The PRESIDENT OF MAGDALEN COLLEGE.—Those are two questions.

The CHAIRMAN.—They are, and they involve the further question that, even if it were divided between the two Universities, are there men in the market whom you could get to teach?

The PRESIDENT OF MAGDALEN COLLEGE.—I assume that the India Office might be prepared to spend a certain sum on one thoroughly good school, but it might not be prepared to divide it between two weak schools.

The CHAIRMAN.—That is the point I was trying to come to.

The PRESIDENT OF MAGDALEN COLLEGE.—We feel that it is for you and your experts to say whether the number of students is large enough to admit of their being divided, whether the training which they require is so special that they must have a very elaborate staff, and whether that staff can be supplied by more than one place. We feel that is for you here. We have been asked what we will do. Cambridge have, to a considerable extent, stated what they would do. I quite recognise that they have not had it in exactly the same form as we have, but still they have had opportunities which we have not had.

The MASTER OF CAIUS COLLEGE.—No. I may say that, until a very few days ago—until last week—we had not been put in any kind of position, and we are not put in a position even yet to consider this matter as a University. What we should do if we were invited to consider what was the best scheme would be to appoint a Scientific Committee and ask for a conference with experts.

The CHAIRMAN.—You see, Master, there is a primary difficulty, apparently, to my mind, in the whole matter. So far as we know, we can only get a competent staff for one body at present, whatever it is.

Mr. SHIPLEY.—Just temporarily, but there must be some successors.

The CHAIRMAN.—As far as we can ascertain from our inquiries, we can only get one competent staff. So there is the difficulty that, even if we were to subsidise each University, one University would have to go to the wall on the question of not having a competent staff.

Mr. SHIPLEY.—I think we would be prepared to take the risk. We have so strong a feeling for the success of science and agriculture and so on in Cambridge that we are prepared to do the very best we can, even if we do not get absolutely the best Professor of Indian Forestry. Dr. Schlich tells us that he is proposing to retire sooner or later, and when he goes someone will have to succeed him. If we can persuade him to stay on for a year or two longer, we might have the advantage of his assistance.

The CHAIRMAN.—We have got to make the provision at once, you see—that is the difficulty—and the men will have to be selected in this year.

Mr. SHIPLEY.—Would it not be possible to select them this year in the same way that they were selected last year? Could not the college be kept open for the engineers for another year?

The CHAIRMAN.—No, the college must be closed next year, I think.

Sir CHARLES LYALL.—Yes, in 1906.

Mr. SHIPLEY.—Then these men could be selected in August and go on until 1906 at Coopers Hill. That would give one time to develop a scheme.

The MASTER OF CAIUS COLLEGE.—Unless you made special arrangements, which you are empowered to do, I suppose, that candidates who take their degrees in natural science at Oxford and Cambridge this year and will therefore be more mature than the candidates you have got hitherto, should be selected. Then they might have their two years of probation. My point is this, that in an emergency where it is obviously desirable in the interests of a great public service that all possible advice should be considered, a temporary arrangement might be to offer your ten posts to men who are confessedly more mature than those which you have got at present from the two Universities, who will be taking their degrees in the course of this year, and then give them as an experiment the two years' training.

Sir CHARLES LYALL.—The two years' training being one year in England and one on the Continent.

Mr. SHIPLEY.—Yes.

The PRESIDENT OF MAGDALEN COLLEGE.—Where would the one year in England be given?

Mr. SHIPLEY.—At Coopers Hill.

Sir DIETRICH BRANDIS.—That overlooks the state of the actual facts of the case. The facts of the case are these—that if a change is to be made, as it has been decided to abolish Coopers Hill, it must be made as soon as possible. You have Dr. Schlich, with 20 years' experience in Coopers Hill, and he may not care to commence such a difficult business, because to organize it, whether it is at Oxford or Cambridge, will be a difficult business,—it must be altogether organized afresh, and he may not care to undertake that two years hence. It must be done at once. If Cambridge will not take the more dignified course now, and for the public good, for the good of the country, for the good of India, withdraw for the moment the objection and wait a little until more demand for foresters arises, then the whole thing will go smash. That is what I say.

The CHAIRMAN.—I hope it will not go smash.

Sir DIETRICH BRANDIS.—Yes, it will.

The MASTER OF CAIUS COLLEGE.—I have greater confidence in the science teaching of the whole kingdom than to anticipate that. Moreover, I contend—I am sorry to differ from Sir Dietrich—that the line he suggests is not the dignified line for our University to take up, and is not in the public interest. That is my contention, for what it is worth.

The CHAIRMAN.—As I understand your suggestion, it is, I suppose, that we should select this year men who have passed their two years at Oxford or at Cambridge.

The MASTER OF CAIUS COLLEGE.—And taken honours in natural science.

The CHAIRMAN.—And that we should train them, presumably for a year, at Coopers Hill, until it is closed.

The MASTER OF CAIUS COLLEGE.—And then take them abroad.

Dr. SCHLICH.—They should be taken when?

The MASTER OF CAIUS COLLEGE.—They should be taken this year.

The CHAIRMAN.—And that they should have one year at Coopers Hill, which will be until July next year, and then go abroad.

Dr. SCHLICH.—Then we should have two lots in the same year—we should have twenty men in the one year.

The CHAIRMAN.—That is the Master's proposition.

Mr. SHIPLEY.—Would you?

Dr. SCHLICH.—Yes, we should have two sets of men under training.

Mr. HOLDERNESS.—Is there room at Coopers Hill for an extra batch?

Dr. SCHLICH.—There is plenty of room.

Mr. HOLDERNESS.—You could not confine it to Oxford and Cambridge.

Dr. SCHLICH.—If the Master would allow me, I would help him a little. If the Master's proposal were adopted we should not want any men this year; we should only want them next year, because we have three lots in hand—we have one lot going out in 1905, another going out in 1906, and the other in 1907, and the men you are going to choose now would have to go out in 1908.

Mr. SHIPLEY.—So that we can slip over a year?

Mr. HOLDERNESS.—But then where would you train them?

Dr. SCHLICH.—Do you mean to select them as we have done in the past?

Mr. SHIPLEY.—No; there are ten men to be chosen according to the paper this year, and they are to have the three years from August, so it seems to me that this ten would go out in 1908; there again we skip over a year.

Dr. SCHLICH.—I say that whatever men we take now they will not go out till 1908.

Mr. SHIPLEY.—If you take our men in 1905 and give them a year in England and a year's probation in Germany that brings them to 1907.

Dr. SCHLICH.—We do not want the men. We have got men in training.

Mr. SHIPLEY.—Put it off for a year.

Dr. SCHLICH.—That means, in other words, to adopt the plan which Cambridge puts forward, and which we have been fighting against.

The MASTER OF CAIUS COLLEGE.—No, not at all. It is a temporary arrangement, whatever may happen afterwards. You say something must be done this year; what I say is that it ought not to be beyond the bounds of possibility to make some temporary arrangement, which I say is almost necessary whenever you have to change a scheme; it is the most common thing in the world when you have to radically change a scheme in the University.

Sir DIETRICH BRANDIS.—That means delay, and in this particular case delays are disastrous. It must be done at once.

The CHAIRMAN.—I think it really means this—if we accept the Master's proposal that the men we select this year would be lying fallow for one year before we sent them out.

Mr. HOLDERNESS.—You would have to send out twenty in one year and in another ten; you could not keep people doing nothing at all.

The CHAIRMAN.—We should have them in 1907 when we do not want them.

The MASTER OF CAIUS COLLEGE.—How about the Colonies?

The CHAIRMAN.—There are advantages in the Colonies.

The MASTER OF CAIUS COLLEGE.—With regard to the general question of delay, I should like to urge as a point of principle that a certain amount of delay is desirable. I think that we might hope to get the best scheme in the end, and the disadvantage to the public service at the moment is far outweighed by securing a proper scheme.

Sir DIETRICH BRANDIS.—The efficiency in preparing men for India will not be improved by more talking; it will be improved by going to work, and that must be done as soon as possible. This organization, if it is not done now, may never come to any satisfactory end, and therefore any half measures or any temporary measures are evil.

109070

Dr. SCHLICH.—I may, perhaps, be allowed to state that the Government of India, as a matter of fact, were opposed to our going either to Cambridge or to Oxford. They wanted the whole thing to go back to the Continent. I considered that a mistake, and my only alternative was to make such an arrangement as would keep the thing in the country and not make us go back to the Continent.

The CHAIRMAN.—I think it may be assumed that it will not go back to the Continent, but that it will be kept here. The difficulty, as yet insoluble, is how we are to get two staffs of professors. What are the facilities afforded respectively by Oxford and by Cambridge as a centre for a forest school?

Dr. SCHLICH.—Is it not quite monstrous to keep two full-power professors with four students each?

Mr. SHIPLEY.—It will not be four students.

Dr. SCHLICH.—If there will be more, why should they not pay for it?

Mr. SHIPLEY.—It would mean 15 men, and many of our classes are smaller than 15.

The CHAIRMAN.—I do not think I would be a party myself, individually, to advising the Secretary of State to spend the Indian revenues on two schools of forestry. To pass to the other question—Which affords the greatest facilities for practical demonstration in forestry?

The PRESIDENT OF MAGDALEN COLLEGE.—We think that is for the experts to say.

The CHAIRMAN.—It is entirely for the experts.

The PRESIDENT OF MAGDALEN COLLEGE.—On the whole, I think Oxford.

Sir DIETRICH BRANDIS.—There are possibilities there.

The PRESIDENT OF MAGDALEN COLLEGE.—Dr. Schlich has really gone over the ground in both places.

The CHAIRMAN (to Mr. Fisher).—You know Cambridge?

Mr. FISHER.—Yes, I know Cambridge very well.

The CHAIRMAN.—You are a Cambridge man?

Mr. FISHER.—I lived for 20 years in Cambridge when I was a young man, and I took my degree at the University before going to the Forest Department.

The CHAIRMAN.—Do you know the neighbourhood of Oxford?

Mr. FISHER.—I have been to Oxford several times, but I do not know Oxford so well as Cambridge.

The CHAIRMAN.—What are the facilities at Cambridge for practical teaching in forestry?

Mr. FISHER.—One of the great difficulties is the soil, which is a regular heavy marl or else gravel. It is not adapted to growing conifers. The conifers there are very poor.

The MASTER OF CAIUS COLLEGE.—There is a very grand collection not very far off.

Mr. FISHER.—Yes, I believe they manage to keep them alive; as specimens of botany they can just get them to grow, but for forestry the soil is poor. It is quite true that if you go some distance from Cambridge, to Woburn, for instance, you can find woods. I was looking at a map the other day, and apparently Blenheim is close by Oxford, and there are several large landed properties there within quite easy range.

The CHAIRMAN.—Is Woburn being conducted on scientific principles of forestry?

Mr. FISHER.—At present I do most of the sylviculture teaching at

Coopers Hill, and I spend five or six hours every week in Windsor Forest with the students. To commence teaching sylviculture one must have a wood to go to quite handy, because the men who come up are quite ignorant and no amount of study in the class-room could possibly compensate for not going about and seeing the trees. I think even if you have natural woods of some kind growing up, the bad management will perhaps enable the professor to teach better than in a well-managed wood.

The CHAIRMAN.—Because he can point out the mistakes?

Mr. FISHER.—Yes. I find a great advantage in teaching sylviculture in the presence of Windsor Forest, and I could not possibly teach it without. At Cambridge I do not think I could get anything nearer than Woburn.

The CHAIRMAN.—How far is Woburn from Cambridge?

Mr. SHIPLEY.—It is about an hour or so from Cambridge.

Dr. SCHLICH (producing a map and explaining same).—This shows Cambridge and Oxford and the forests within reach of both.

Mr. SHIPLEY.—We should like to put in a map.

The CHAIRMAN.—Certainly.

Dr. SCHLICH.—This map is prepared quite irrespective of the woods in the immediate vicinity. I am perfectly certain, from what I have seen, that they are better at Oxford in the immediate vicinity. Moreover, Oxford is practically situated in the middle of those six blocks of more distant woods. *Here*, for instance, is the Dean Forest, which was made by an Indian forester, the late Mr. Hill. *These* are woods belonging to Lord Bathurst, which, as far as management goes in this country, are as good as any in the country. *Here* is the New Forest, and *there* are the Beech Woods on the Chiltern Hills. There is a railway going direct to it, so that you can very easily in an afternoon go and spend four or five hours in the woods and come back. Take even the Duke of Bedford's woods; you can get to them from Cambridge in from 50 minutes to an hour, and it takes from Oxford an hour and 20 minutes or 25 minutes.

Mr. SHIPLEY.—We can put in a map showing a lot of woods.

Dr. SCHLICH.—These are all woods which are marked for special purposes, because most of these are now managed according to some systematic plan. I know there are lots of woods at an easy distance from Cambridge, but I do not know one, with the exception of the Duke of Bedford's, which is managed in any reasonable way.

Mr. SHIPLEY.—Those woods are not so accessible as they look on your map. If you look it up in "Bradshaw," you will find that it takes a long time and several changes to get to them.

Dr. SCHLICH.—I only want to explain why I, from a practical point of view, formed the idea that Oxford was more favourably situated than Cambridge. I really started in favour of Cambridge.

The CHAIRMAN.—You are dealing here with large forest areas; what do you say with regard to the smaller woods around Oxford and Cambridge?

Dr. SCHLICH.—I cannot claim an intimate knowledge of those around Cambridge, but I have been there, and I certainly have seen nothing in the immediate vicinity of Cambridge which could be of any appreciable advantage to us; whereas in regard to Oxford there are these natural woods in the Chiltern Hills, and there is a very nice wood within 2½ miles of Oxford called Bagley Wood, and I think that some day, unless we turn out to be quite barbarians, they will allow us to manage that wood for them.

Mr. SHIPLEY.—The soil around Cambridge is much more varied.

The MASTER OF CAIUS COLLEGE.—I suppose no man knows more about the varieties of soil and the varieties of trees that do grow upon it and have in past ages grown upon it than Professor Hughes.

Dr. SCHLICH.—Here is a map showing the woods of Oxford (producing another map).

The CHAIRMAN.—Do you consider that it is absolutely necessary for the School of Forestry to have woods close to the seat of the school?

Sir DIETRICH BRANDIS.—The closer they are the better. Wherever the school is located, the first thing which Dr. Schlich will have or hope at least to get, will be a small area of 100 acres as close as possible to the place where the lectures will be given, so that the students can go across within a few minutes or within an hour or so.

Mr. SHIPLEY.—We have all that.

Sir DIETRICH BRANDIS.—Then there must be larger woods for demonstration. I need not explain the particulars, but in 1883 I considered the whole question. I went to Oxford and with the help of Sir William Markby I made the acquaintance of persons connected with the colleges, and I ascertained that there was a very great deal of woodland which is the property of the colleges. That is a great thing, because they could be made over to Dr. Schlich to manage, and then, as soon as he has an area of forest to manage, the forest school will live.

The CHAIRMAN (to Mr. Shipley).—You say you have got some woods?

Mr. SHIPLEY.—We have got already an agricultural farm very close of considerable size, which would be a place that you could get to in 20 minutes on a bicycle.

Dr. SCHLICH.—There are no existing woods?

Mr. SHIPLEY.—We are a much more going concern in this line than they are at Oxford.

Dr. SCHLICH.—But you want existing woods?

Mr. SHIPLEY.—We have an agricultural school as a going concern there, and much that is new will have to be built up at Oxford, I fancy, whereas we are already teaching it.

The PRESIDENT OF MAGDALEN COLLEGE.—We have a professor of forestry, and we are prepared to spend £800 a year. Have you one?

The MASTER OF CAIUS COLLEGE.—You have not put any of those things before our University.

Mr. SHIPLEY.—May I ask who he is?

The PRESIDENT OF MAGDALEN COLLEGE.—He is not appointed at the moment.

Mr. SHIPLEY.—There has been a professor of agriculture at Oxford for very many years, but I cannot remember that he has done very much.

The PRESIDENT OF MAGDALEN COLLEGE.—No; he has had very little pay, but now the University is going to give a little more. Is Cambridge prepared to pay £800 a year.

Mr. SHIPLEY.—We have a professor of agriculture, and we are spending money on it. You have simply added "forestry" to the title of your professor of agriculture.

The PRESIDENT OF MAGDALEN COLLEGE.—No, the forestry was there. Professor of rural economy, not agriculture, is his real title.

The MASTER OF CAIUS COLLEGE.—With regard to the possibilities of what we might do in the matter of money, I may say that we have not had an opportunity of fairly considering it. The whole question has not been

in a state in which it could be brought before the University to be considered seriously.

Sir DIETRICH BRANDIS.—Save your money until the time comes when Canada wants it.

The MASTER OF CAIUS COLLEGE.—We want to come in now.

Sir DIETRICH BRANDIS.—Then you can have a school of forestry which will beat anything else.

Mr. SHIPLEY.—But it will all have gone to Oxford in the meantime.

Sir DIETRICH BRANDIS.—No. There are twelve forest schools in Germany, and so there is room for two in England.

The CHAIRMAN.—Is there any other subject that either Oxford or Cambridge would like to bring before the Conference?

The MASTER OF CAIUS COLLEGE.—I should like to know, as soon as possible, in what position matters are now.

The CHAIRMAN.—I shall make a report to the Secretary of State, and I suppose it will be considered in Council. I do not know; I presume you will hear in due course.

Sir CHARLES LYALL.—That is the usual course.

The CHAIRMAN.—That is all I can say. Of course, I have got no power.

The MASTER OF CAIUS COLLEGE.—I should like to state our position. I think I might fairly do so. We do not concede a very large number of the arguments that have been used to-day, and we cannot be content with anything short of absolute equality in this matter, which is a matter that touches our honour very seriously, it seems to me. Moreover, I think we should urge very strongly again—I say in the interests of the public service—that we should have the opportunity of putting the whole matter before our University in order to consider what can be done. I confess I do think it fair and reasonable that that proposition which I put before you might be considered, namely, What could the two Universities do, provided they were given equal opportunities financially?

The PRESIDENT OF MAGDALEN COLLEGE.—I should expect the two Universities to do exactly the same thing if they had the same financial opportunities. It is for you to consider what financial opportunities you can give them. I have always held that, roughly speaking, Oxford and Cambridge are far more parallel than they are dissimilar, and I am sorry indeed to differ or to fight with Cambridge in the matter. I do not wish to go back on the whole history of it, but when we first thought of it we understood that Coopers Hill was likely to be closed, and we thought that the engineering students would go to Cambridge—where they naturally would go—and we thought we should do our duty and of course help ourselves by having the forestry students. I think our starting point was the professorship of rural economy; we thought we might augment that professorship. We thought that if Cambridge had the engineering students they would be having the lion's share, and that we were not in any way doing what was unfair to them. Then we made our representations, and we understood—it has been mentioned here—that on the whole the Blue Book inclined to Cambridge and probably the India Office was looking to Cambridge. Then we felt that if we were to have nothing at all it was rather hard on us. We felt very much, I think, as Cambridge feels too; and so we then asked to have our views considered. But we understood that Cambridge was quite willing to acquiesce in having all the forestry students, and therefore I think Cambridge could hardly say it was inherently unfair that they should all go to one University if they were prepared to accept that. I do not think there is very much more to be said. Both Lord George Hamilton and Mr. Brodrick have found it a very complicated and difficult question, and there has naturally been a good deal

of delay. I think we have both had to wait, and sometimes Cambridge has had the advantage and sometimes we have. I do not say there is very much in that one way or the other.

The MASTER OF CAIUS COLLEGE.—Would you mind explaining—the advantage in what?

The PRESIDENT OF MAGDALEN COLLEGE.—The advantage in being ahead. Cambridge were ahead to begin with, and perhaps we are a little ahead now; but when this scheme was sent down, it was sent simultaneously to both. We did not see Dr. Schlich before we knew the scheme was going to Cambridge. The scheme came down, and we sent for Dr. Schlich, and at that time we were told in the covering letter that the scheme had been sent to Cambridge. The scheme did not come from us as suggested. We have not offered a scheme. We offered a statement of what we should do. Cambridge seems to have offered a scheme and—not perhaps to the same extent—stated what they could do. I do not think we need battle about that. As it seems to us, the question really is for the India Office to say whether these students can be divided—whether they are enough to be divided with profit or advantage—whether they would not be in too small numbers if they were divided—and also whether they require special training. That seems to me the chief point. If they require a special training with a special staff, then they must be kept together, and that special staff must in some way be provided. For that special staff we offer to give a professor at the rate of £800 a year. I understand there would have to be a special staff and a museum; you could hardly send those to both places; you could, no doubt, divide any funds that there are, but would that supply a sufficient special staff? Those seem to us questions for your Office and for your experts to decide, and not for us to pronounce upon. I think that is how it appears to us. The other points that we had in our mind, I think, have been dealt with. There is the question of the open door. Of course, we quite recognise that if the school was at Oxford, Cambridge would not be so near the door as Oxford would; Oxford would undoubtedly have some advantage then. We come back to the question, can they be divided? If they must be sent to one or the other, then the advantage will be seen.

The CHAIRMAN.—That is the real question, I think.

Mr. SHIPLEY.—May I add one word? Nobody has ever come to us at Cambridge and said, we will give you the engineers; we have started that absolutely on our own initiative at a great sacrifice to the University; and if some of our boys have succeeded in getting into the Service it has been with no help from any Government Department at all. So it is not on all fours with the forestry; it is won purely in the open market. This proposal is by a big Government Department, and if the State needs some teaching done in this subject in one of the Universities, it is not on all fours with the case of the engineers.

The CHAIRMAN.—This is not a permanent arrangement; it is only temporary.

Mr. SHIPLEY.—That Mr. Brodrick assured us. It was recommended by, I think, three different Blue Book Commissions, who went carefully into the matter, that the school should come to Cambridge. But Cambridge never acquiesced in this scheme, and I hope it will at any rate try to keep the open door in forestry.

The MASTER OF CAIUS COLLEGE.—The Cambridge scheme did not refer to this scheme, and Cambridge said it would be willing to give further information.

Mr. SHIPLEY.—Our claim really did not refer to India.

The MASTER OF CAIUS COLLEGE.—May I say one word more? At that time we had no idea at the University that Oxford would not have a scheme, and there was no question of our setting up ourselves against Oxford, that

is to say, once Oxford put in a scheme they had just exactly the same right to be on all fours as we had.

The CHAIRMAN.—I am quite certain the Secretary of State, when he sees the notes, will be very much indebted to you all for the assistance you have given.

The MASTER OF CAIUS COLLEGE.—We are very much indebted to you, Sir.

No. 20.

Report, dated 8th February, 1905, on the Forestry Conference of 2nd February, 1905.

We have to report, for the information of the Secretary of State, the result of the Conference which took place, at his desire, on the 2nd instant, to discuss the selection and training of Probationers for the Indian Forest Service.

The following were present at the Conference:—

Sir John Edge, K.C., Chairman.

The President of Magdalen College, Oxford.

Professor H. A. Miers, D.Sc., F.R.S., Magdalen College, Oxford.

The Master of Gonville and Caius College, Cambridge.

Mr. A. E. Shipley, Christ's College, Cambridge.

Sir C. J. Lyall, K.C.S.I., C.I.E.

Mr. T. W. Holderness, C.S.I.

Sir D. Brandis, K.C.I.E., Ph.D., F.R.S., formerly Inspector-General of Forests in India.

Dr. W. Schlich, C.I.E., Ph.D., F.R.S., Principal Professor of Forestry at the R.I.E. College.

Mr. W. R. Fisher, Assistant Professor of Forestry at the R.I.E. College.

A report of the proceedings of the Conference is annexed.

It will be seen from this report that no resolution was passed at the Conference, but an interchange of views took place between the representatives of the respective Universities of Oxford and Cambridge and the advisers of the Secretary of State in Council, which has, we think, placed matters in a clearer light, although not many new arguments were brought forward on either side.

It was, indeed, evident throughout the discussion that the representatives of the University of Cambridge and the advisers of the Secretary of State in Council approached the subject from different points of view.

In the view of the latter the closure of the Royal Indian Engineering College at Coopers Hill should be effected with the least possible disturbance of the existing arrangements for the supply of Probationers for the Indian Forest Service. It is generally recognised that the School of Forestry at Coopers Hill is the only institution at present in existence in the United Kingdom which provides efficient training in *Indian* Forestry. Therefore, it is argued—we think rightly—that the closure of the college at Coopers Hill involves the transfer of the School of Forestry to some new centre, a transfer which was, in fact, recommended by the Committee, which reported in 1903 in favour of closing the college.

The argument becomes plainer if we consider the purpose which the college has served with regard to engineering education. It was originally founded thirty-four years ago for the training of engineers for the Indian Public Works Department, at a time when such training was not obtainable elsewhere. The growth of efficient institutions for the teaching of engineering in the United Kingdom appeared to the Secretary of State in Council to render the maintenance of the college as an engineering institution unnecessary, and it was accordingly decided to close it. The same cannot be said with regard to the School of Forestry, and the existing organisation must therefore be maintained at some new centre, instead of at Coopers Hill.

It seemed to us that the representatives of Cambridge University were disposed to under-value somewhat the important results which are obtained by the systematised course of three years' continuous training in Indian Forestry, which is now provided at Coopers Hill, and which it is proposed to continue at Oxford University; or, to put the matter in another way, they seemed to contemplate as of no special difficulty the establishment at comparatively short notice of a second and equally efficient course at their own University. They suggested, in particular, that the expenditure which it is proposed to incur at Oxford out of Indian revenues might not unreasonably be apportioned between the two Universities. We cannot but think that, were this done, the result would be to establish two Schools of Indian Forestry, of which either would be less efficient than that which at present exists. We do not, of course, question the ability of either University to supply scientific teaching of the highest order, but the practical experience of many years which is now being utilised in the School of Indian Forestry at Coopers Hill cannot be made available at more than one new centre. The supply of first-rate teachers of forestry with Indian experience is very limited.

In suggesting that the Probationers for the Indian Forest Service should be chosen at the end, rather than at the beginning of their University career, the representatives of Cambridge University appear to us to have been to some extent misled by the analogy of the selection of candidates for the Indian Civil Service. That analogy does not appear to hold good, because the Probationers for the Indian Forest Service are required to possess special knowledge of a highly technical kind when they leave this country for India, while the Indian civilians are young men of good education and proved general ability, who are sent out to undertake the general administration of the country, with only such familiarity with Indian law, languages, &c., as can be acquired in a single year of probation at a University.

The proposal that those who are to enter the Indian Forest Service should be trained, broadly speaking, for the first part of their course in general science, and for the last part in the special branch of forestry, appears to be open to serious objection in view of the statement of the technical advisers of the Secretary of State that the study of scientific subjects and the study of forestry should proceed *pari passu* throughout the entire course, and we do not think that any variation from the three years' course of probation as now followed at Coopers Hill could be permitted without some risk to Indian interests.

Our opinion is that the transfer of the School of Indian Forestry at Coopers Hill to a new centre is a step which it is absolutely necessary to take, in the existing condition of the study of forestry in the United Kingdom. The University of Cambridge asks for delay before a final decision is arrived at, to enable the University to consider its own arrangements with regard to the teaching of forestry, but we think that in limiting the proposed arrangements with the University of Oxford to a period of five years the Secretary of State in Council has had sufficient regard to the claims of other Universities. If, at the end of that period, they are able to provide efficient teaching in forestry, their claim to train candidates

in situ for the Indian Forest Service will doubtless be given the fullest consideration.

We do not think that any sufficient reason was shown at the Conference for departing from the scheme at present under consideration, that the new centre of training for the Forest Probationers should be at Oxford.

With regard to the method of selection of the Probationers for the Indian Forest Service, we think that, although the selection might be made at an examination conducted by the Civil Service Commissioners, on practical grounds it can be made more conveniently and cheaply under the regulations of which a draft has been prepared, *i.e.*, at the preliminary examination of the Honours School of Natural Science at Oxford. That examination is already in being; to organise a separate examination for the comparatively small number of candidates who compete for the Indian Forest Service—in 1904, twenty-one only—would occasion unnecessary labour and expense, the latter of which must be defrayed either by the candidates themselves or from Indian revenues.

Our recommendations, therefore, are :—

(1) That the draft letter to the President of Magdalen College be now sent;

(2) That the draft letter to the Vice-Chancellor of Cambridge University, with one or two slight alterations, be sent also.

JOHN EDGE.
C. J. LYALL.
T. W. HOLDERNESS.

India Office,
8th February, 1905.

Appendix to No. 20.

Minute, dated 8th February, 1905, of Mr. T. W. Holderness, C.S.I.

I have signed the report, as I consider that the scheme which it is proposed to lay before the University of Oxford will secure suitable candidates for the Indian Forest Department, and will provide for their technical training in Indian Forestry. These are the two matters with which my Department is concerned. I am satisfied that, for the present, special instruction in Indian Forestry must be provided, and that it ought not to be provided at more than one place at the cost of Indian revenues.

I defer to the opinion of Dr. Schlich and Sir D. Brandis that the special training will necessarily occupy three years, including one year spent on the Continent. Accepting that opinion, I agree that the proposed age limit of 21 is sufficiently high, and that the competitive entrance examination should be one which undergraduates of one year's standing who have started work in the Natural Science School may be expected to satisfy. Had it been possible, I should prefer to see the technical course compressed into two years in all (including the Continental work), the limit of age raised to 22, and the candidates selected by a more advanced examination, conducted by the Civil Service Commissioners and framed so as to require proficiency in most of the subjects recommended by Dr. Schlich for the study of the Forest Probationers. If this could have been arranged, the main grievance of the Cambridge authorities would have been met, as the higher age limit would suit Cambridge men who have taken Part I. of the Natural Science Tripos at the end of their second year, and might even admit men who have done a third year's course in

the School of Agriculture. The weak point in the present scheme is that it may practically exclude Cambridge men, who have commenced reading for the Natural Science Tripos at that University; and these men are more numerous than the men pursuing the same studies at Oxford.

(Signed) T. W. HOLDERNESS.

No. 21.

Letter from the Vice-Chancellor of the University of Cambridge to the India Office, dated the 11th March, 1905.

The Committee appointed by the Council of the Senate to deal with the question of instruction in Forestry have noted with satisfaction that, in answer to the question put by Sir John Gorst in the House of Commons on Tuesday, February 28th, you replied to the effect that the details of the scheme for providing a supply of candidates for the Indian Forestry Service were still under consideration.

They gather also from the statement made by the Marquis of Bath in the House of Lords last Tuesday, March 7th, that you had under consideration the possibility of certain modifications of the scheme as originally submitted to us for criticism:—

(1) The competitive examination was to be conducted by the Civil Service Commission;

(2) The temporary nature of the scheme was emphasized;

(3) The experimental period of five years originally proposed was to be reduced to three;

(4) The Marquis of Bath (as reported) said he would undertake that an inquiry, which should include outside authorities, would be held before the close of three years, to consider and report upon the experiment.

On behalf of my Committee, I desire again to press upon you a suggestion which was made in the conference held at the India Office on Thursday, February 2nd, namely, that for the present year, pending a full and immediate consideration of a scheme for admitting to the competition Graduates of all British Universities, a selection should be made in June from Graduates in Natural Sciences at such Universities; and that in their case the period of probation should be two years instead of three, one of these years to be spent at Coopers Hill, during the time for which the College is to remain open, and the other in Continental forests. The difficulty in the way of carrying out this proposal which was pointed out by Dr. Schlich, namely, that the students would be ready a year too soon, seems to be one which is of little account compared with the grave disadvantage to the Public Service of a limited competition and the creation of what the Earl of Lytton (as reported) justly called a "protected interest." A similar difficulty must necessarily arise whenever it is determined to change the period of probation for a Public Service.

I am, &c.,

(Signed) EDWARD A. BECK,
Vice-Chancellor.

No. 22.

Letter from the India Office to the Secretary, Civil Service Commission, dated the 17th March, 1905.

I am directed by the Secretary of State for India in Council to acknowledge the receipt of your letter* of the 3rd February last, enquiring whether it is intended to hold this year an Examination of Candidates for the Indian Forest Service, and to express regret that the necessity for prolonged consideration of the future arrangements for the selection and training of the Probationers for this Service has hitherto prevented him from making any communication to the Commissioners on the subject.

The Secretary of State in Council now directs me to enquire whether the Commissioners would be so good as to arrange to conduct a Competitive Examination, under the Regulations of which a proof* is enclosed herein, at such date as may be convenient to the Commissioners and likely to be suitable to students engaged in the study of Natural Science in the teaching institutions of the United Kingdom.

It will be observed that the Syllabus of the Examination is left blank, and the Secretary of State in Council would be glad if the Civil Service Commissioners will fill it in at their discretion.

The Secretary of State would much appreciate the assistance of the Civil Service Commissioners in this matter.

I am, &c.,

(Signed) HORACE WALPOLE.

No. 23.

Letter from the India Office to the Vice-Chancellor of the University of Cambridge, dated the 17th March, 1905.

I am directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 11th instant on the subject of the recruitment and training of candidates for the Indian Forest Service.

Mr. Secretary Brodrick has, as you are aware, given to this matter his most careful attention, and has received a deputation from your University; and has further caused the matter, in compliance with the request put forward by that deputation, to be discussed at a conference, at which representatives of Oxford, of Cambridge, and of this Office were present.

In consequence of these deliberations, the Secretary of State in Council has on some points modified the decision at which he had previously arrived.

The recruitment will be absolutely open to all qualified candidates, wherever they may have been educated, and it will be conducted, not as originally suggested, at Oxford, but by the Civil Service Commissioners, who will at their discretion draw up the syllabus for the examination.

The Secretary of State in Council, after very careful consideration, has decided that he cannot ignore the unanimous opinion of his expert advisers, and that he must maintain, in its general outline, the present

---

* Not printed.

system of training after selection, viz., two years, at some one place in this country, under teachers possessing practical experience of Indian Forestry, and one year in Germany; and that the most suitable place for the two years' training, regard being had more especially to the necessity for easy access to woodlands and forests, is Oxford.

He, therefore, considers himself bound to adhere to his decision to send the students, when selected by open competition, to be trained for two years at Oxford; but he has decided, further, that this arrangement, which he regards as experimental, shall be adopted for three years certain, instead of five years; and that before the expiry of that period an inquiry shall be held, with the view of assisting the Secretary of State to determine what the system shall be in subsequent years.

I am to inclose, for your information, copies of letters which he has caused to be addressed to the Civil Service Commissioners and to the University of Oxford.

I am, &c.,

(Signed) HORACE WALPOLE.

No. 24.

Letter from the India Office to the President of Magdalen College, Oxford, dated the 17th March, 1905.

I am directed by the Secretary of State for India in Council to address you, in continuation of previous correspondence, on the subject of the selection and training of Probationers for the Indian Forest Service.

Mr. Brodrick much regrets the delay which has taken place in the disposal of this matter, but the representations which have been made to him from different quarters appeared to necessitate to some extent a re-examination of the question.

After mature consideration, therefore, the Secretary of State in Council desires now, while still availing himself of the assistance of the University of Oxford in the location at Oxford of the Indian School of Forestry, to introduce certain modifications in the arrangements previously contemplated.

These modifications are as follows:—

(1) The Competitive Examination for the selection of the Probationers to be carried out by the Civil Service Commissioners, instead of by the authorities of Oxford University.

(2) The Syllabus of the Examination to be drawn up by the Civil Service Commissioners, at their discretion, in the four subjects of:—

(I.) Mechanics and Physics;

(II.) Chemistry;

(III.) Zoology; and

(IV.) Botany.

(3) The period at the end of which the arrangements for training the Probationers at Oxford are to be subject to reconsideration, to be three years, instead of five, as stated in the letter from this Office of the 19th August last.

It is intended to hold within this period of three years an enquiry with the view of assisting him to determine the manner of the selection and training of the Probationers for the Indian Forest Service in subsequent years.

Mr. Brodrick trusts that in these circumstances he may still rely on the assistance of the University in the training of the Probationers in the immediate future.

A proof of the Regulations, in their amended form, is enclosed herewith, and the Civil Service Commissioners have been addressed with a view to the holding of the Competitive Examination at such date as may be convenient to them and likely to be suitable to students engaged in the study of Natural Science in the teaching institutions of the United Kingdom.

They have been requested to prepare the Syllabus of the Examination.

I am, &c.,

(Signed) HORACE WALPOLE.

No. 25.

Letter from the India Office to the Secretary to the Court of the University of Edinburgh, dated the 23rd March, 1905.

I am directed by the Secretary of State for India in Council to reply to your letter of the 16th December last, the receipt of which was acknowledged on the 19th of that month, and in which you enquire whether the Court of the University of Edinburgh may be supplied with an outline of the new scheme proposed for the recruitment and training of candidates for the Indian Forest Service.

Mr. Secretary Brodrick regrets that, in consequence of representations which led him to give further consideration to this question, and to postpone a final decision, his answer has been unavoidably delayed.

I am now to explain that Mr. Secretary Brodrick, having given to the matter his most careful attention in Council, has decided that the recruitment shall continue to be, as at present, by open competitive examination, conducted by the Civil Service Commissioners; and has further decided, in accordance with the unanimous opinion of his expert advisers, to maintain, in its general outline, the present system of training after selection by open competition, viz., two years, at some one place in this country, under teachers possessing practical experience of Indian Forestry, and one year in Germany; and that the most suitable and convenient place for the two years' training is Oxford.

He has decided, further, that this arrangement, which he regards as experimental, shall be adopted for a period of three years, and that before the expiry of that period an inquiry shall be held, with the view of assisting the Secretary of State to determine what the system shall be in subsequent years.

I am to inclose, for your information, a copy of a letter which he has caused to be addressed to the Civil Service Commissioners, and to add that he notes the action which has been taken in the University of Edinburgh for imparting instruction in Forestry and the further intention of the University to arrange for the grant of a Degree in this subject.

I am, &c.,

(Signed) HORACE WALPOLE.

No. 26.

Letter from Vice-Chancellor of the University of Cambridge to India Office, dated 20th March, 1905.

I am requested by the Council of the Senate, which met to-day, to further acknowledge the receipt of your letter, dated 17th March, 1905, in which you inform me of the decision of the Secretary of State for India in Council to transfer for a period of three years the training of Indian forestry students from Coopers Hill College to the University of Oxford.

While recognising the great courtesy with which the Secretary of State has received and considered their representations, the Council of the Senate desire, with all respect, to place on record their profound dissatisfaction with the adoption, even temporarily, of a scheme which they still hold to be such as to involve the exclusion of members of this University from any share in the Forestry Department of the Public Service.

They wish me to add that they propose to publish the correspondence which has passed between the University and the India Office. They assume that no objection to this course will be raised by the Secretary of State.

I have, &c.,

(Signed) EDWARD A. BECK,
Vice-Chancellor.

No. 27.

Letter from the India Office to the Vice-Chancellor of the University of Cambridge, dated 29th March, 1905.

I am directed by the Secretary of State for India to acknowledge the receipt of your letter of the 20th March, on the subject of the transfer for a period of three years of the School of Indian Forestry from the Royal Indian Engineering College to Oxford.

In reply to the last paragraph of your letter, I am to explain that Mr. Secretary Brodrick proposes very shortly to present papers to Parliament explaining the grounds of the decision on the subject of the selection and training of Probationers for the Indian Forest Service, and to include in them the correspondence between the Vice-Chancellor of the University of Cambridge and this Office.

The necessity for the separate publication of the correspondence by the University authorities appears, therefore, to be obviated; but Mr. Secretary Brodrick has no objection to such publication, should it be desired, in which case he requests that this letter may be included.

I am, &c.,

(Signed) HORACE WALPOLE.

No. 28.

Letter from the Civil Service Commission to the India Office, dated the 25th April, 1905.

With reference to previous correspondence relative to the revision of the scheme of examination for the Indian Forest Service.

I am directed by the Civil Service Commissioners to transmit, for the consideration of the Secretary of State for India in Council, the accompanying draft syllabus* which they have caused to be prepared on the lines suggested by your Department.

I am also to state that if the Secretary of State concurs in the proposed syllabus the Commissioners will be prepared to hold an examination of candidates for the Forest Service on the 29th August of this year.

The Commissioners would be obliged by receiving copies of the revised Regulations in due course.

I have, &c.,

(Signed) R. HOWLETT.

No. 29.

Letter from the India Office to the Civil Service Commission, dated the 11th May, 1905.

I am directed by the Secretary of State for India in Council to acknowledge the receipt of your letter of the 25th April, and to convey his thanks to the Civil Service Commissioners for their willingness to conduct an examination in August next for the admission of candidates to the Indian Forest Service.

The Secretary of State in Council has now finally approved the Regulations, of which a copy is enclosed.

A further supply of copies will be forwarded to you, as soon as the Regulations are actually issued.

I am, &c.,

(Signed) HORACE WALPOLE.

Enclosure in No. 29.

Indian Forest Service.—Regulations as to the Appointment of Probationers, 1905.

1. *Appointments.*—The Secretary of State for India in Council will, in the summer of 1905, make not less than nine appointments of Probationers for the Indian Forest Service, provided that so many

* Printed as Enclosure in No. 29.

candidates are in all respects qualified under the conditions hereinafter set forth, upon the results of a competitive examination to be held in London on the 29th August, 1905, by the Civil Service Commissioners.

2. *Admission to Examination.*—Applications for admission to the examination must be made on a printed form to be obtained from the Secretary, Judicial and Public Department, India Office, Whitehall, London, S.W., and to be returned to him not later than Saturday, the 1st July, 1905.

No applications received after that date will be considered.

3. *Age Limits.*—The age of candidates must not be less than 18, or more than 21, years on the 1st January, 1905.

4. *Nationality, &c.*—Every candidate must be a natural-born British subject. He must be unmarried, and if he marries before reaching India, he will forfeit his appointment.

5. *Qualifying Examinations.*—A candidate must have passed the Examination of the University of Oxford known as Responsions or the Previous Examination of the University of Cambridge, or some one of the other examinations held (1) by these Universities or (2) by the Universities of London or Dublin or (3) by the Joint Board of Examiners for the Scottish Universities or the Scotch Education Department or (4) by the College Entrance Examination Board of the United States of America, and recognised by the Universities of Oxford and Cambridge as equivalent to the Examination in Responsions or to the Previous Examination, or must have passed an Examination at some Foreign University which, in the opinion of the Secretary of State in Council, is at least equivalent to any one of the Examinations above-mentioned.

6. *Subjects of Examination.*—The subjects of the competitive examination mentioned in paragraph 1 are as follows:—

(1.) Mechanics and Physics.

(2.) Chemistry.

(3.) Zoology.

(4.) Botany.

Equal weight will be attached to each of the four subjects, and candidates must qualify in each.

The Syllabus of the Examination forms Appendix I.

7. *Fee, &c.*—A fee of 2*l.* is required from every candidate, and instructions as to the manner of payment of this fee, the time and place of the examination, and any other necessary information, will be sent to candidates on application by the Civil Service Commissioners.

8. *Medical Examination.*—Those candidates who are provisionally successful in the competitive examination will be required, shortly after the result of the examination is declared, to undergo a strict examination by a Medical Board at the India Office, at which particular stress will be laid on good vision and hearing.

On passing this medical examination candidates will be deemed to be Probationers for the Indian Forest Service.

9. *Period of Probation.*—The period of probation will extend over about three years. For the first two years the Probationers will be required to undergo a special course of study at Oxford and to become members of the University if not so already. During the third year of their probation

they will receive practical instruction, visiting under suitable supervision such Continental forests as may be selected for the purpose. Excursions may also be made for purposes of study during the first two years, both in term time and in the vacations.

10. *Charges.*—The Probationers will be required to defray all expenses for lodging, board, tuition, and excursions which they may incur during the period of their probation at Oxford. During the third year of practical instruction on the Continent, which will consist of three terms, each Probationer will be required to pay in advance a charge of 60*l.* a term, for which the Secretary of State for India will provide (1) board, lodging, and washing; (2) travelling expenses; and (3) fees to local forest officers, &c.

11. *Course of Study.*—The prescribed course of study for the Probationers comprises the following subjects:—

I.—*Subjects auxiliary to Forestry.*

(1.) Elementary Organic Chemistry and the Chemistry of soils.

(2.) Geology.

(3.) Forest Entomology.

(4.) Forest Botany.

(5.) Geometrical Drawing, Mathematics up to and including Plane Trigonometry and Surveying.

(6.) German.

(7.) Engineering (elementary).

(8.) Book-keeping, in reference to Indian Forest Accounts.

II.—*Forestry, Theoretical and Practical, in all its Branches.*

12. *Conduct and Medical Requirements.*—Every Probationer will be required to conduct himself during the period of probation in a manner satisfactory to the Secretary of State, and to give evidence of satisfactory progress in his studies in such manner as may be required, failing which, or in the event of serious misconduct, he will be liable to have his name removed from the list of the Probationers.

A Probationer may also, at the discretion of the Secretary of State, be required from time to time to appear before the Medical Board, and, should the result be unsatisfactory, he will be liable to have his name removed from the list of Probationers.

13. *Diploma of Forestry, &c.*—During the period of probation, the proficiency of the Probationers will be tested by periodical examinations.

The Probationers who satisfy the Examiners in all these examinations, and complete satisfactorily the practical course in Forestry on the Continent, will receive the Diploma of Forestry of the University of Oxford. It is desirable that they should, if possible, also obtain a degree in the Honour School of Natural Science at the University.

14. *Appointment and Seniority.*—Probationers who obtain the Diploma of Forestry, and are of sound constitution and free from physical defects which would render them unsuitable for employment in the Indian Forest Service, will be appointed Assistant Conservators in the Indian Forest Department. Their seniority will be determined by the results of

the examinations held during their two years' residence as Probationers at Oxford and the manner in which they have completed the practical course on the Continent.

They will be allowed at the end of the period of probation to state their preference in respect to the Provinces to which they desire to be allotted; but the distribution will be made to the several Provinces according to the needs of the Public Service, at the discretion of the Secretary of State for India. Officers are, however, at all times liable to be transferred from one Province to another at the pleasure of the Government of India.

15. *Riding.*—Every Probationer, before proceeding to India, will be required to satisfy the Secretary of State, in such manner as may be determined, of his ability to ride. It is desirable that this evidence should be forthcoming before the Probationer proceeds to the Continent for his final period of study.

16. *Articles of Agreement, &c.*—Within a month of his nomination as Assistant Conservator, each nominee must sign articles of agreement describing the terms and conditions of his appointment; he must embark for India when required to do so by the Secretary of State, and must engage his own passage. Failure to embark at the stated time will, in the absence of satisfactory explanation, lead to forfeiture of appointment.

17. *Allowance.*—An allowance will be granted to each Probationer on signature of his agreement, varying from 50*l.* to 100*l.*, according to the degree of proficiency and diligence shown by him during his practical course upon the Continent.

18. *Salary.*—An Assistant Conservator of Forests will draw pay at the rate of Rs. 350 a month from the date of his reporting his arrival in India.

19. *Promotion, Leave, Pension, and Provident Fund.*—Promotion, leave, and pension will be governed by the Regulations laid down by the Government of India, and made applicable to Forest officers, such regulations being subject to any modifications or alterations which may be made in them from time to time by the Government of India, and their interpretation in case of any doubt arising being left to that Government. A copy of the existing regulations can be seen on application at the India Office.

Certain information regarding appointments in the upper controlling staff of the Indian Forest Service will be found in Appendix II.; a summary of information regarding leave is contained in Appendix III., regarding Pensions and Provident Fund in Appendix IV.

India Office,
11th May, 1905.

NOTE.—It is probable that candidates for the Indian Forest Service in subsequent years will be required to have passed a qualifying examination in German.

APPENDIX I.

(*Referred to in paragraph* 6.)

SYLLABUS OF THE COMPETITIVE EXAMINATION.

I.—MECHANICS AND PHYSICS.

Mechanics.

The principles of the lever, the inclined plane, the composition of forces, and virtual work, their experimental investigation and application to machines and other simple cases of equilibrium. Centre of gravity, couple, torque, velocity ratio, mechanical advantage, efficiency. Application to liquids and gases. Density. Boyle's law. Pump, siphon, barometer, manometer. Body moving in a straight line so that its velocity changes proportionally with the time. Body moving uniformly in a circle. Motion of pendulum-bob. Momentum, force, impulse of a force, energy, conservation of energy.

Heat.

Simple thermometry. Simple methods of determining latent heats; specific heats; expansion of gases, liquids and solids; vapour pressures. Change of state. Simple experiments on conduction, convection and radiation. Mechanical equivalent of heat.

Sound.

Direct determination of the velocity of sound in air and in water; the effect of change of temperature on the velocity of sound in air; mode of propagation of sound in air. Simple methods of determining the pitch of a note. Characteristics of musical sounds.

Light.

Laws of reflection and refraction. Simple methods of determining refractive indices, and the focal lengths of mirrors and lenses. The simplest form of the compound microscope and of the astronomical telescope. Dispersion, the spectroscope, spectra of different kinds. Simple photometry. Elementary notions of the determination of the velocity of light.

Electricity and Magnetism.

Properties of electrified bodies. Methods of electrification. Electric induction. The gold leaf electroscope. Elementary quantitative notions of electrical quantity, capacity, potential and specific inductive capacity. Condensers. Properties of magnets. Methods of magnetization. Magnetic induction. Simple methods of determining the declination and dip at a place and of comparing magnetic fields and moments. The construction of the batteries of Volta, Daniell, and Leclanché, and their theory. The secondary battery. The physical and chemical action due to a current. Simple galvanometers, ammeters, and voltmeters. Measurement of current-strength, electromotive force and resistance. The production of currents by electro-magnetic induction. The broad principles of the induction-coil and dynamo.

PRACTICAL EXAMINATION.

Simple experiments illustrating the principles stated above.

II.—CHEMISTRY.

The simpler chemical and physical properties of common substances, such as lime, salt, sugar, water, air.

The preparation (excluding details of technical processes) and properties of the following substances:—

The metals, tin, lead, iron, copper, zinc, magnesium, calcium, potassium, sodium; their simpler and more important compounds, especially such as occur naturally, and such compounds and alloys as are used in the Arts.

Hydrogen, oxygen, water, ozone, hydrogen-peroxide.

Nitrogen, ammonia, ammonium salts, nitrous oxide, nitric oxide, nitrogen peroxide, nitrates.

Carbon, carbon dioxide, carbonates, carbon monoxide.

Chlorine, bromine, iodine, chlorides, bromides, iodides, chlorates, hypochlorites.

Sulphur, sulphuretted hydrogen, sulphides, sulphur dioxide, sulphur trioxide, sulphites, sulphates.

Phosphorous, phosphoretted hydrogen, phosphorus trioxide, phosphorus pentoxide, orthophosphates, phosphorus trichloride, phosphorus pentachloride.

Silica.

The principles of chemical change; oxidation and reduction; combustion; flame. Allotropy. Methods of purifying bodies. Methods of determining the composition of air and of water. Laws of chemical combination. Diffusion of gases. The atomic and molecular hypotheses. The simpler methods of determining equivalents. General considerations used in determining molecular weights and atomic weights. Chemical notation.

Alcohol, ethane, and the simpler ethylic compounds, considered in detail as typical bodies. Methylic alcohol and methane, and benzylic alcohol and toluene, considered briefly as analogues of alcohol and ethane. Characters of primary normal alcohols in general, and of their corresponding hydro-carbons.

Acetic acid, aldehyd and the simpler acetic compounds, considered in detail as typical bodies. Benzoic acid and benz-aldehyd, and formic acid and form-aldehyd, considered briefly as analogues of acetic acid and aldehyd. Characters of normal mon-acids in general and of their corresponding aldehyds.

Oxalic acid and the simpler oxalic compounds. Characters of normal di-acids in general.

Processes (i.) for the detection of carbon, hydrogen, nitrogen, sulphur in organic compounds; (ii.) for the estimation of carbon, hydrogen, nitrogen in organic compounds; (iii.) for the production and analysis of the silver-salts of organic acids and the platinum-salts of organic bases; (iv.) for the determination of vapour densities by the V. Meyer method.

The determination of the formula of an organic compound.

Practical Examination.

The Practical examination may include :—

Simple experiments and preparations illustrating the properties of the inorganic substances named above.

Simple quantitative experiments, such as, the determination of the loss of weight on heating a body, the determination of the volume of gas evolved on the solution of zinc in acid. The volumetric estimation of acids and alkalies.

The qualitative analysis of simple salts containing not more than one of the following metals, and one of the following acid radicals :—Sodium, potassium, ammonium, calcium, magnesium, zinc, copper, iron, lead, tin, oxide, carbonate, chloride, sulphate, nitrate, sulphide.

III.—ZOOLOGY.

A general knowledge of the structure and life history of the Rabbit, the Frog, the Dogfish, the freshwater Crayfish, the common Earthworm, *Obelia*, *Hydra*, a Gregarine, *Paramoecium*, *Amoeba*. The simpler physiological properties of the various systems of organs, such as the circulatory, digestive, &c., which are met with in these animals. An elementary knowledge of the structures and properties of the cell and of the tissues (epithelia, muscular, connective, bone, cartilage, fat, blood, and lymph) built up of cells in the Rabbit or Frog. An elementary acquaintance with the formation of the ova and the spermatozoa in Vertebrates, and with the phenomena of fertilization and of cleavage of the ovum, and with the formation of the primary embryonic layers and the origin of the amnion, allantois, and placenta.

Practical Examination.

In the practical examination candidates will be required to demonstrate by dissection or otherwise the structure of some one or more of the animals named above.

IV.—BOTANY.

The following plants as exhibiting the life-history of plants; the relation of the plant to external conditions; the processes and mechanisms of nutrition, growth, and reproduction; the structure and functions of the parts of the plant:—

Angiosperms: helianthus, tilia, zea. Gymnosperms: pinus. Pteridophyta: aspidium, equisetum. Bryophyta: funaria, pellia. Algæ: vaucheria, chlorococcus. Fungi: bacterium, a lichen, a parasitic fungus.

PRACTICAL EXAMINATION.

Candidates will be expected to show an adequate acquaintance with the microscopical examination of the chief plant tissues, and to describe typical specimens and preparations.

APPENDIX II.

LISTS OF APPOINTMENTS IN THE UPPER CONTROLLING STAFF OF THE INDIAN FOREST SERVICE.

NOTE.—*These lists show only the existing sanctioned scale, which is liable to alteration at any time. Forty-three of the appointments shown below in the various grades of Deputy and Assistant Conservators are being gradually transferred to the Provincial Forest Services, which are recruited in India. The rest of the appointments named are held by members of the Imperial Forest Service, which is recruited under these regulations The lowest grade here mentioned, namely Assistant Conservator, 2nd grade, on Rs. 350 a month, is that to which probationers are ordinarily appointed if they have acquitted themselves creditably during their course of instruction.*

Number according to existing sanctioned scale.	Appointment.	Salary.
	INDIA.	
1	Inspector-General of Forests	Rs. 2,000 a month, rising by annual increments of Rs. 100 a month to Rs. 2,500 a month.
1	Assistant Inspector-General of Forests	Pay of grade.
	Conservators (excluding the Conservators on the Bombay and Madras lists below) :—	
4	1st grade	Rs. 1,600 a month.
5	2nd „	„ 1,400 „
4	3rd „	„ 1,200 „
	Imperial Forest School :—	
1	Deputy Director	Pay of grade.
2	Instructors	
9 (4 temporary).	Foreign Service appointments	
	BENGAL, WITH ANDAMANS.	
2	Deputy Conservators, 1st grade	Rs. 900 a month.
2	„ „ 2nd „	„ 800 „
3	„ „ 3rd „	„ 650 „
4	„ „ 4th „	„ 550 „
3	Assistant Conservators, 1st grade	„ 450 „
3	„ „ 2nd „	„ 350 „
	ASSAM.	
1	Deputy Conservators, 1st grade	As above.
1	„ „ 2nd „	
1	„ „ 3rd „	
3	„ „ 4th „	
2	Assistant Conservators, 1st grade	
1	„ „ 2nd „	

Number according to existing sanctioned scale.	Appointment.	Salary.
	UNITED PROVINCES.	
2	Deputy Conservators, 1st grade	Rs. 900 a month.
2	„ „ 2nd „	„ 800 „
2	„ „ 3rd „	„ 650 „
3	„ „ 4th „	„ 550 „
3	Assistant Conservators, 1st grade	„ 450 „
4	„ „ 2nd „	„ 350 „
	PUNJAB (WITH NORTH-WESTERN FRONTIER PROVINCE AND BALUCHISTAN) AND CENTRAL PROVINCES.	
4	Deputy Conservators, 1st grade	As above.
5	„ „ 2nd „	
5	„ „ 3rd „	
7	„ „ 4th „	
8	Assistant Conservators, 1st grade	
7	„ „ 2nd „	
	BURMA.	
5	Deputy Conservators, 1st grade	As above.
5	„ „ 2nd „	
12	„ „ 3rd „	
14	„ „ 4th „	
8	Assistant Conservators, 1st grade	
6	„ „ 2nd „	
	MADRAS.	
1	Conservator, 1st grade	Rs. 1,600 a month.
1	„ 2nd „	„ 1,400 „
1	„ 3rd „	„ 1,200 „
3	Deputy Conservators, 1st grade	As above.
4	„ „ 2nd „	
7	„ „ 3rd „	
8	„ „ 4th „	
5	Assistant Conservators, 1st grade	
6	„ „ 2nd „	
	BOMBAY AND SIND.	
1	Conservator, 1st grade	As above.
1	„ 2nd „	
1	„ 3rd „	
2	Deputy Conservators, 1st grade	
4	„ „ 2nd „	
7	„ „ 3rd „	
6	„ „ 4rd „	
5	Assistant Conservators, 1st grade	
4	„ „ 2nd „	

APPENDIX III.

LEAVE.

1. The following is a summary of the principal regulations relating to the leave admissible to officers appointed to the Indian Forest Service by the Secretary of State from the United Kingdom.

Long Leave.

2. Furlough is admissible to an aggregate amount of six years during the service. The amount "earned" is one-fourth of an officer's active service, and the amount "due" is that amount less any enjoyed.

3. Furlough without medical certificate can, if due, be generally taken after eight years' active service, and again after three years' continuous service. It is limited to two years at a time.

4. Furlough with medical certificate is limited to one year if an officer has not served three years continuously; otherwise he may have leave up to two years, and it may be extended to a third year.

5. The allowances admissible during furlough are :—

(1.) During the first two years of furlough without medical certificate and during so much of furlough with medical certificate as may be "due"—half average salary, subject to certain maximum and minimum limits.

(2.) After the expiration of the period for which the foregoing allowances are admissible—one quarter of average salary, subject to certain maximum and minimum limits.

Short Leave.

6. Privilege Leave is a holiday which may be granted to the extent of one-eleventh part of the time that an officer has been on duty without interruption; and it may be accumulated up to three months, earned by 33 months' service. During privilege leave, the officer retains a lien on his appointment, and receives the salary which he would have received if on duty. An interval of not less than six months must elapse between two periods of absence on privilege leave.

Privilege Leave may be prefixed to furlough, special leave, or extraordinary leave without allowances. The whole period of leave thus taken in combination is known as combined leave. Combined leave may not be of less duration than six months, nor, except on medical certificate, may it be extended beyond two years.

7. Special Leave may be granted at any time for not more than six months, with intervals of six years' service; allowances, calculated as during furlough, are given during the first six months only, whether taken in one or more instalments. This leave is included in the aggregate of six years' furlough admissible.

8. Extraordinary Leave without allowances may be granted in case of necessity, and, except in certain specified cases, only when no other kind of leave is by rule admissible. It may be granted in continuation of other leave.

9. Subsidiary Leave in India for a minimum of 10 days, usually with half average salary, is granted to an officer proceeding on or returning from leave out of India, or on retirement, to enable him to reach the port of embarkation or to rejoin his appointment. It is admissible only at the end and not at the beginning of combined leave. If the officer is entitled to privilege leave, he can draw pay at privilege leave rates for as many days as he is entitled to such leave.

10. Short Leave is also granted to enable officers to appear at examinations, &c.

General Rules.

11. Leave of absence, whether on furlough or on privilege leave, can never be claimed as of right, and is given or refused at the discretion of Government.

12. After five years' continuous absence from duty, an officer is considered to be out of the employment of Government.

13. When leave allowances are paid at the Home Treasury, or in a Colony where the standard of currency is gold, rupees are converted into sterling at the rate of exchange fixed for the time being for the adjustment of financial transactions between the Imperial and Indian Treasuries, unless any other rate has been exceptionally authorised. But for the present the rate of conversion is subject to a minimum of 1*s.* 6*d.* to the rupee.

APPENDIX IV.

PENSIONS AND PROVIDENT FUND.

1. The following is a summary of the principal pension rules applicable to officers of the Indian Forest Service appointed by the Secretary of State from the United Kingdom.

An officer of the Indian Forest Service is eligible for a pension on voluntary retirement after completing 20 years' qualifying service or attaining the age of 55 years. If at an earlier date he is compelled to retire from the service through ill-health not occasioned by irregular or intemperate habits, he becomes eligible for an invalid pension or a gratuity according to the length of his service.

The amount of pension or gratuity is regulated as follows :—

After a service of less than 10 years, an invalid gratuity not exceeding one month's emoluments for each completed year of service.

After a service of not less than 10 years an invalid pension not exceeding the following amounts :—

Years of Completed Service.	Scale of Pension. Sixtieths of Average Emoluments.	Maximum Limit of Pension.
10	20	Rs. 1,000 a year or Rs. 83⅓ a month.
11	21	1,400 „ „ 116⅔ „
12	22	1,800 „ „ 150 „
13	23	2,200 „ „ 183⅓ „
14	24	2,600 „ „ 216⅔ „
15	25	3,000 „ „ 250 „
16	26	
17	27	
18	28	
19	29	

After a service of not less than 20 years, a retiring pension not exceeding the following amounts :—

Years of Completed Service.	Scale of Pension. Sixtieths of Average Emoluments.	Maximum Limit of Pension.
20 to 24	30	Rs. 4,000 a year or Rs. 333⅓ a month.
25 and above		5,000 „ „ 416⅔ „

Officers who have shown special energy and efficiency during an effective service of three years as Inspector-General of Forests or Conservator (First Grade) may, at the discretion of the Government of India, be allowed an additional pension of Rs. 1,000 a year.

Subject to certain prescribed conditions, rupee pensions are now issued to pensioners residing in gold standard countries at the rate of exchange of 1*s.* 9*d.* the rupee.

2. A Provident Fund has also been established on the following basis :—

(*a*) The contribution is compulsory up to 5 per cent. on salaries, with voluntary contributions of a further 5 per cent. ; while on leave, an officer may subscribe any sum he pleases, subject to a minimum of 5 per cent. on his leave allowances and a maximum of 10 per cent on his salary.

(*b*) Compound interest on such payments is annually credited by Government to each officer subscribing, the rate being at present 4 per cent. per annum.

(*c*) Receipts and payments are made in rupees only.

(*d*) The sum which will thus accumulate to the credit of an officer to be his absolute property, to be handed over to him unconditionally on quitting the service ; or, in the event of his death before retirement, to his legal representatives.

00109070

Digitized with financial assistance from
Government of Maharashtra
on 13 March, 2020